GILBERT AND ELLICE ISLANDS COLONY

D E V E L O P M E N T P L A N

1970 - 1972

Tarawa.

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NOTES: (1) All values are expressed in Australian dollars ($A) unless otherwise stated.

(2) Minor textual amendments and arithmetical corrections have been incorporated since the original draft was approved.

GILBERT AND ELLICE ISLANDS COLONY

DEVELOPMENT PLAN 1970-1972

INTRODUCTION

The development of the Gilbert and Ellice Islands Colony was surveyed by the Socio-Economic Survey Mission under the Chairmanship of Sir George Mooring which reported in 1968. The structure of the economy is unchanged, little new data is available, and the Mooring Report's description of the economy is still valid.

2. This Development Plan is concerned to establish priorities and specific programmes for their realisation. These are broadly in line with the Mooring Report, but its recommendations for agriculture, education and finance policies have been significantly re-appraised.

3. In 1970 specific investigations will provide information, and recruitment and training additional manpower, for the implementation, modification, and extension of development programmes in 1971-1972.

4. Plan progress and policy will be reviewed annually and the Plan carried forward for an additional year.

5. The re-organisation of functions between the Development Authority and Government Departments requires considerable restructuring of Government's Current Budget for 1970 before meaningful projections of expenditure and revenue can be completed.

6. The appointment of a statistician to the Western Pacific High Commission will enable a statistical service to be developed in 1970-1971.

CHAPTER 1 - Development Strategy & Development Financing

Development Strategy

1.1 The Development Plan 1970-1972 initiates a decade in which a major, if unwanted, transformation of the economy of the Gilbert and Ellice Islands is certain. During the decade, there will be a rapid growth of population, the loss of a major source of income, and increased participation in and responsibility for policy by the territory's own citizens. These will be the primary influences on development in the decade and have determined the programmes outlined in the Plan.

1.2 Population is likely to grow by a minimum of 25% in the decade and the phosphate mining industry, which currently produces 49% of Cash National Income, is expected to close down by 1976. In this situation even the maintenance of the present standard of living presents a major task, in particular the extent to which this can be realised from the territory's own resources. Living standards have risen rapidly in the recent past. The feasibility of maintaining them depends upon the diversion of resources into productive investment, tight control upon the rate of growth of personal consumption and social services, and control of population growth. Failure to implement policies based upon these requirements will lead to an unacceptable drop in the standard of living in the late 1970's.

1.3 Government activity will be switched from past emphasis on the development of health, housing, police, public utilities, education and administration. None of these is directly income-producing and together they have generated a large expansion in current expenditure, financed mostly from rising phosphate taxation receipts. Continued expansion would be to the detriment of investment in income-producing sectors and increase Government's budgetary deficit in 1977 and thereafter.

1.4 Past expansion of social and infrastructural services and the income and employment opportunities arising has principally benefited South Tarawa. Consequently this one atoll has attracted from the Outer Islands most of the population increase in the period 1963-1968. Social and economic costs have been incurred by this migration, and efforts will be made to halt it. The major future prospects for employment and income expansion lie in agricultural development in the Outer Islands and it is to be hoped that to some degree these will counteract the past trend in migration. Investment in agriculture, and policies directly designed to correct the present development imbalance will take high priority in the territory's development strategy.

1.5 In the short run, shortage of skilled manpower and the need for investigational work (rather than shortage of development finance) are the prime constraints on increasing productive investment. The territory has substantial reserves which will increase with appropriate budgetary policies, and, together with anticipated external aid, are more than adequate to finance the 1970-1972 capital programme. Limited known natural resources and possibilities for their exploitation pose the long-run problem of the viability of the cash economy at current income levels.

1.6 The Development Plan 1970-1972 aims to provide an integrated group of programmes consistent with an overall development objective. The Plan makes little reference to the private sector, because in the cash sector there is little private enterprise and the potential for development is small. The future contribution of institutionalised private enterprise to the development of the cash economy is not likely to be extensive: investment opportunities are mostly either very small, in, for example, retail trading, or very large, requiring Government involvement if : ocially-desirable, territory-wide coverage is to be ensured. Capital investment is likely to be almost entirely in the hands of Government or its agencies. This simplifies the process of planning, but places on Government a special responsibility to undertake "risk investment".

Population Growth 1968-1986

1.7 The population of the territory is growing at a slightly lower rate than forecast in the 1963 Census Report. The 1968 Census, not yet analysed in detail, suggests that the rate of growth of the indigenous population was 2.3% per annum in the period 1963-1968 with a heavy drift towards Tarawa. Continued growth at this rate implies a 25% increase in population in the decade to 1980. The rate of growth is itself increasing so that the population increase, if uncontrolled, will be higher with a concomitant rise in demand for food, housing, medical, education and other services. With maximum feasible exploitation of known resources over the next two decades, the territory is unlikely to be capable of supporting a population of more than 80,000-90,000 at current, 1968, living standards. Table 1.7 estimates the population position.

Table 1.7 - Population

	1963	1968	1977	1986
Ocean Island	2,706	2,192	-	-
Gilbert Islands	37,973	44,206	-	-
(Tarawa)	(7,914)	(12,642)	-	-
Ellice Islands	5,444	5,782	-	-
Phoenix Islands	1,018	-	-	-
Line Islands	1,371	1,180	-	-
Ships	268	157	-	-
Total	48,780	53,517	68,000	80,000

National Income

1.8 National Income (N.N.P.) estimates originally prepared for the Mooring Report show a rapid rate of income growth for the period 1963-1968 in both aggregate and per capita terms. This is largely attributable to increased phosphate tax receipts (some 240% in the period), to increased earnings on Ocean Island, and to the expansion in income from Government employment that the former has been made possible. The other source of primary income, copra, has stagnated over the period. Table 1.8 gives a rough estimate of National Income (N.N.P.) in 1963 and 1968. The two estimates are not strictly comparable but give the broad order of income in individual years. The trend in per capita income, excluding phosphate income, over the period is downwards because copra output or income from other sources has not risen to keep pace with the rising population. Estimates of subsistence income are on the same basis as the Mooring Report.

/Table 1.8 .....

Table 1.8 - National Income (N.N.P.)

	1963	$'000	1968	
Wages and Salaries				
1. Government	795.0		1,422.0	
2. Island Councils	40.0		65.0	
3. Other Public Bodies	15.0		20.0	
4. Co-operative Societies	45.0		75.0	
5. Ocean Is.(Local Employees)	508.0		782.0	
6. Wholesale Society	159.0		300.0	
7. Companies	76.0		180.0	
8. Missions	35.0		50.0	
9. Domestic Workers	48.0		65.0	
10. Remittances	n.a.	1,721.0	125.0	3,084.0
Profits				
11. Wholesale Society	74.0		150.0	
12. Companies	55.0		95.0	
13. Co-operatives (Dividends)	n.a.	129.0	142.0	387.0
Government Income				
14. Copra Export Duty	210.0		260.0	
15. Phosphate Taxation	731.0		1,757.0	
16. Net on Philatelic Sales	n.a.	941.0	10.0	2,027.0
Sales of Local Produce				
17. Copra	235.0		331.0	
18. Other	10.0	245.0	10.0	341.0
Total Cash Income		3,036.0		5,839.0
Subsistence Income				
19. Coconuts	432.0		486.0	
20. Fish and Meat	500.0		578.0	
21. Vegetables	483.0		558.0	
22. Houses	40.0	1,455.0	32.0	1,654.0
TOTAL N.N.P.		4,491.0		7,493.0
		$		
Per Capita N.N.P.				
Cash	62.0		109.0	
Subsistence	30.0		31.0	
TOTAL PER CAPITA N.N.P.		92.0		140.0

1.9 No estimates are available for personal consumption and gross capital investment, but these will be produced in 1970. Government saving in 1968 totalled $800,000 which was invested overseas/so that aggregate locally disposed income in 1968 amounted to $6.693 million or $125.00 per capita. Changing sources of income, increased dependence on the fluctuating fortunes of the coconut industry, the lack of reliable statistics, make National Income forecasting unrealistic. Rough estimates of the effects on National Income of two major influences, the loss of phosphate income and the consequence of population growth, can however be calculated.

National Income, 1977

1.10 The loss of phosphate production will occur in a matter of months at the end of 1976. The direct effect on National Income in 1977 will be a loss of $2.539 million, or 44% of 1968 Cash National Income. Population is forecast to increase by 14,500 by 1977. The combined effect of phosphate loss and population increase will virtually

halve per capita income at 1968 levels ($140) requiring the development of income from new sources totalling some $4.509 million, with a Target National Income in 1977 of $9,525,000.

1.11 This requires income from sources other than phosphate to be doubled in a period of only eight years. Investment opportunities with this income potential just do not exist. Those with high income potential have long gestation periods. National Income arising from new sources, including from reserves, in 1977 is estimated at $2.684 million (Table 1.35). The maintenance of living standards can only be achieved from 1977 to the middle 1980's by the provision of increased external assistance.

National Income 1986

1.12 The growth of population in the period 1977-1986, estimated at some 12,000, requires the generation of additional income, and implies a 1986 National Income Target of $11.200 million. The Development Plan 1970-1972 programme will continue into the period 1973-1976 and investments undertaken 1970-1976 will together mature and generate an estimated total new income of $5.725 million in 1986. The National Income Gap will decline to some $0.521 million, after taking account of income from invested reserves. (Table 1.35).

It is neither possible nor essential that the National Income Gap in the period 1977-1986 be completely closed by locally generated income. What is important is that the gap should be steadily closing, with some prospect of economic viability in the not too distant future. The Plan programme virtually closes the National Income Gap by 1986. It requires a relatively ambitious target rate of growth of National Income from non-phosphate sources of 6% per annum over the fifteen-year period. Income re-distribution implicit in changing sources of income will require an active and flexible fiscal policy.

1.13 The physical implementation of programmes designed to generate this income increase is considered feasible, but the financial outcome depends to an unavoidable extent on the fortunes of the coconut industry with the inherent threat of price instability and substitution. The absence of major alternative income-producing investment opportunities dictates that the risk must be taken, otherwise the territory is committed to a future based on aid handouts to maintain current consumption, or a reversion to subsistence.

1.14 Achieving the National Income Target will do no more than maintain existing levels of per capita consumption, and a decline in the terms of trade would in fact lower real per capita consumption. However, per capita income levels have risen remarkably in the past decade, by over 40% in the last five years. Existing salary levels are out of line with national income and productivity and vigorous control is essential in the future with the objective of maximising employment.

National Income 1968-1986

1.15 Table 1.15 outlines population growth, the National Income targets and sources of National Income in the period 1968-1986. Three-quarters of the increased income arising between 1977 and 1986 will be available only towards the end of the period. To meet the National Income Gap external aid(budgetary support and other income subsidisation) will be required between 1977 and 1985, amounting to $1.887 million in 1977, rising to some $2 million in 1979-1982, and falling to $0.521 million by 1986. This aid is in addition to capital aid which has been subsumed in the National Income Estimates as continuing at present levels.

Table 1.15 - National Income (N.N.P.) 1968-1986

$ '000

	Population	N.I. Target	Estimated Actual N.I. (by Source)			N.I. Gap
			Existing	New	Total	
1968	53,500		7,493.0	-	7,493.0	-
1977	68,000	9,525.0	4,954.0	2,684.0	7,638.0	1,887.0
1986	80,000	11,200.0	4,954.0	5,725.0	10,679.0	521.0

Trade and Payments

1.16 The territory has achieved a large trade surplus in the period 1966-1969. The cash economy is entirely export-oriented, and the level of cash income and imports is directly related to the level of exports.

1.17 The internal price level is largely determined by the price of imports, and principally depends upon Australian prices because 55% of imports originate there. Export prices of the major export, phosphate, have increased considerably during the 1960's as a result of political pressure, but copra prices have stagnated. Because of the rising phosphate price, and its predominant share in exports (some 72% in 1967) the terms of trade have in the recent past moved in favour of the Colony. They should continue reasonably favourable in the Plan period, and probably until 1976. Thereafter increased dependence on copra could lead to their deterioration.

1.18 The trade surplus combined with the aid inflow net of invisibles and profits outflow has given the territory an overall payments surplus with a build-up in externally-invested reserves. The loss of phosphate industry earnings will lead to an immediate fall in imports in 1977 closely correlated to the income loss. It will not equal the income loss because the phosphate contribution to Net National Product only includes royalty and local wages.

1.19 There are no appreciable lags between the receipt of income and expenditure on imports, and with a very high propensity to import, average and marginal, imports will fall very quickly to the new level. New income generated by 1977 is likely, despite some change in income distribution, to generate a demand for imports comparable to the income it replaces.

Development Priorities 1970-1972

1.20 Development strategy has as its objective long term self-sufficiency and the maintenance of existing living standards. The major development priorities are population control, income and employment generation, and economic pricing policies for economic and social services. Secondary priority will be accorded to increased institutional efficiency, and localisation and education programmes geared to manpower requirements.

1.21 The highest priority attaches to reducing the rate of growth of population, and stabilising it at a level which the known resources of the territory can sustain. The financial outlay involved in a large scale educative programme is low in relation to the potential benefits. The effectiveness of the programme will depend upon changing existing attitudes, which currently favour large families designed to provide security in old age. The age structure of the population is such that increased numbers of women will enter the child-bearing age-group, so that the benefits of an effective programme will scarcely be felt during the next decade, and it will take 20-30 years to achieve reasonable stability of population. If this is not achieved, efforts to generate income will prove abortive in the face of an increasing population.

1.22 The improvement of coconut production, peasant and plantation, will make a major contribution to employment and income growth both in the medium and long term. Investment in agriculture will total 26% of capital investment in the Plan period, compared with 2% in the previous three-year period. Most of this will be for the coconut industry, generating substantial income growth in the 1980's.

1.23 There are a number of unexplored import substitution investment possibilities in building and other materials, and in the local assembly of simple manufactures. These require investigation and experiment. Larger-scale surveys and feasibility studies are required to improve the efficiency of services, and to widen and develop the

range of products in such fields as transport, coconut processing and marketing, and fisheries. Provision is made for these investigations which could lead to investment decisions in 1971-1972 yielding returns in the middle 1970's.

1.24 The expansion of the Merchant Marine Training School with reduced per capita training costs will create a major new source of employment and income from remittances. The required expansion can be quickly achieved with only marginal additional investment, and virtually immediate returns.

1.25 The quality and quantity of educational turnout is poor despite a large increase in expenditure in recent years. The Plan includes a comprehensive education and manpower policy related to development prospects for the next decade, and places particular emphasis on aspects of training and localisation.

1.26 Re-organisation of the structure and functions of the Wholesale Society and integration with Government Departments on the broad lines recommended by the Mooring Report should be completed by the end of the Plan period. It is of considerable importance that services provided by the Development Authority be rationally costed and priced at an early stage. This will avoid misallocation of resources and enable Government to revise Budget Estimates to reflect changed revenue and expenditure. The Development Authority will be responsible for most economic services in the territory - transport, construction and engineering. The failure to pursue pricing policies reflecting real costs, or inadequate management would burden the economy with costs it can ill afford.

1.27 Certain economic services will continue to be supplied by Government, particularly public utilities on Tarawa, and telecommunication and airfield facilities. These are currently being supplied to consumers at sub-economic rates, and additional charges will have to be considered for electricity and water. Many social services are provided by Government at sub-economic rates which has brought about an increasing demand for housing, medical and educational facilities. Overall future resource allocation and the budgetary position of Government make it necessary that consumers contribute where possible to the cost of the services they enjoy. The introduction of charges for services supplied is necessary from an economic and revenue stand-point, and the Plan contains proposals for the period 1970-1972.

1.28 Income from Ocean Island phosphate production must be maximised during its remaining life as it offers the major short-term source of additional income available to the Colony, and will make a material contribution to the reduction of future external aid requirements.

1.29 Table 1.29 outlines future contributions to National Income from capital investment projects to be implemented in the Plan period. Rational pricing policies, improved institutional efficiency and development-related education will yield real but unquantifiable benefits to the Colony. These are of particular importance in improving welfare because of the limited opportunities for generating new income. The apparent inability of the economy to sustain increased per capita incomes in the foreseeable future means that any increased individual welfare must depend upon the possibility of lowering costs and encouraging more rational choice to optimise use of available resources.

/Table 1.29 .....

Table 1.29 - Income Generated 1977-1986

$'000

		1977	1986
Cash Sector			
1.44	Investment Income (Reserves)	1,000.0	1,000.0
2.31	Grove Improvement	450.0	450.0
2.35	New Planting	-	1,500.0
2.46	Christmas Island Development	-	400.0
2.49	Fanning & Washington Islands Dvlpmt	-	500.0
2.57	Timber Development	-	140.0
2.60	Fishing Scheme	100.0	100.0
4.2	Small Scale Manufacturing	250.0	400.0
7.25	Philatelic Sales	150.0	225.0
11.10	Remittances M.M.T.S.	400.0	400.0
	Total	2,350.0	5,115.0
Subsistence Sector (Excluding Coconuts)		334.0	610.0
		2,684.0	5,725.0

Development Expenditure and Financing

Economic and Budgetary Policy

1.30 The predominant position of Government in the economy will increase rather than diminish in the future, and Government expenditure will largely determine the course of future development. National Income will rise considerably in the Plan period, and afterwards in the period 1973-1976. Wage increases are anticipated arising from recent investigation of Civil Service conditions and salaries (which will spread to other sectors), and general wage-cost creep. It is a basic premise of development strategy that per capita consumption cannot be permitted to increase in the period 1970-1976, because this will increase the requirement for new income generation. It is estimated that cash National Income will increase in 1970 by a minimum of $300,000 - $400,000 over the 1969 level. This is considerably in excess of additional cash National Income required to meet the consumption needs of increased population, which is some $100,000. The balance would increase per capita consumption, although some 20% of the gross increase would be received by Government through tax receipts.

1.31 Specific tax measures are proposed to remove increased per capita purchasing power from the economy, in line with forecast annual increases in the period 1970-1976, to achieve the controls on consumption required by development strategy. The major fiscal measures under consideration to achieve the required control of the economy include a revision of the import duty base, from an f.o.b. to a notional c.i.f. basis, modified rates of import duty on items which can be produced locally, a wages levy, and modification of the present structure of income tax to remove anomalies. The timing of the introduction of these measures in the Plan period will be related, as far as practicable, to forecast changes in cash National income, after taking account of the effect of existing tax measures on those increases. The necessity for the introduction of further tax measures cannot be too strongly emphasised. If per capita consumption is permitted to rise in the period 1970-1976 at the rate of $5.00 annually, the 1977 income gap will be increased by $1.5 million, with a receding possibility of bridging the gap.

1.32 The financing of current expenditure and capital development is discussed below, but it should be noted that increased taxation is necessary not only to restrain growth of per capita consumption, but also to provide a current budget surplus from which financial reserves can be built up. The anticipated rate of growth of Government recurrent expenditure, however tightly restrained, will not permit the levels of saving envisaged in the Mooring Report ($500,000 annually

from phosphate revenue), unless revenue from other local sources is sharply increased. The Plan endorses the need to maximise local saving in the period 1970-1976.

1.33 Development strategy requires that budgetary policy be directed to taxing increased income out of the economy, increasing tax revenue from non-phosphate sources and tightly controlling the rate of growth of non-developmental Government recurrent expenditure. These budgetary policies will minimise the future income gap and budgetary deficit, whilst maximising the rate of saving in the economy as a basis for generating future income growth.

Development Expenditure

Recurrent Expenditure

1.34 The Mooring Report pointed out that Government recurrent expenditure has risen by 62% in the period 1964-1968, financed by the availability of much larger sums from phosphate taxation. Government income from phosphate taxation in fact trebled in the period 1964-1969 - from $0.73 million to $2.17 million. Recurrent expenditure rose from $1.42 million to $2.687 million, a 90% increase, but local revenue from non-phosphate sources increased from $0.895 million to $1.503 million, an increase of only 40%. Preliminary estimates indicate that expenditure will rise by a further 8% in 1970, and by as much as 18% following the review of Civil Service conditions and salaries referred to earlier.

1.35 The Mooring Report drew attention not only to the rapid rate of growth of recurrent expenditure and the increased reliance on phosphate taxation but also to the distribution of expenditure, in particular the concentration of expenditure on infrastructure rather than productive services. A crude estimate which breaks down Government recurrent expenditure by economic sectors, comparable to those used in the Plan, for 1968 and 1969 is given in Table 1.35. In both 1968 and 1969 a proportion of current expenditure was financed from aid funds shown under the Capital Head of the Budget Estimates and this is included in the Table so that the total shown is higher than in Government's Recurrent Estimates.

Table 1.35 - Recurrent Expenditure by Sector 1968-1970

$ '000

Sector	1968	1969	1970
2. Agriculture	81.0	89.9	123.9
4. Manufacturing & Engineering	43.8	44.5	n.a.
5. Trading & Marketing	34.9	21.3	25.7
6. Transport	405.2	428.6	n.a.
7. Public Utilities	240.6	275.4	n.a.
8. Housing & Construction	302.9	317.2	n.a.
9. Information & Broadcasting	15.5	23.2	27.6
10. Education	310.9	424.2	471.4
11. Marine Training	n.a.	129.6	180.0
12. Medical	235.7	274.9	290.7
13. Administration	635.8	672.1	820.7
Total	2,306.3	2,700.9	n.a.
Total (Current Estimates)	2,230.8	2,687.0	3,329.0

1.36 The integration of Government and Wholesale Society functions in the Engineering, Transport and Construction sectors, and changes in public utility operations make forecasting of future levels of Government Recurrent Expenditure difficult. The 1970 Estimates reflect the transfer of the Marine Fleet to the Wholesale Society, but Public Works Department Vote Heads reflect the old pattern of expenditure.

Forecasting is also hampered by the need to estimate charges to be levied by the Development Authority on Government, and by lack of estimates of aggregate or Departmental demands for Development Authority services. It is also intended, not in 1970, that expenditure for certain services at present in P.W.D. Vote Heads will be transferred to Departments which use the services.

1.37 These major changes in the provision and charge for services should, through improved efficiency, lower costs and ensure better resource allocation as full financial costs become evident. The full effect on Government Revenue and Expenditure, and expenditure distribution, will become available in 1970. Detailed planning will be possible for 1971-1972.

For planning purposes, to assess the existing trend of the current budget, and the effect of planned investment 1970-1972, a projection has been prepared. It is based on the 1970 structure of Revenue and Expenditure. It takes account of Marine Department re-organisation, tax proposals and increased charges for services to be introduced in tax proposals and increased charges for services to be introduced in 1970. The estimate takes account of salary increases arising out of the Pincombe Report on the Civil Service. The new tax measures necessary to restrain per carita consumption growth in 1970 cannot be specified in the Plan, but the aggregate amount is of the order of ₳300,000.

Table 1.37 - Government Current Expenditure & Revenue 1970-1972

₳'000

	Expenditure	Revenue	Surplus
1968	2,321.0	3,533.0	1,302.0
1969	2,687.0	3,681.0	994.0
1970	3,329.0	4,350.0	1,021.0
1971	3,424.0	4,553.0	1,129.0
1972	3,629.0	4,561.0	932.0

Capital Expenditure

1.38 Planned capital expenditure for the period 1970-1972 will total ₳4,393,500. Plan estimates include expenditure by Government, the Development Authority, and Government finance to the Co-operative and private sector. It does not include expenditure by the Churches, which can generally be regarded as having little effect on the economy. The aggregate level of expenditure is similar to that in the previous three-year period; disaggregated estimates by economic sectors are not available for the earlier period. The phasing of investment is marked by a disproportionate share of total expenditure in 1970 - some 38%. This is principally because of a large carryover of ₳198,000 from 1969, all but ₳30,000 of which will, it is estimated, be spent in the first quarter of 1970. It is probable that aggregate expenditure in 1971 and 1972 will exceed the Plan estimate following the investigation and planning of new projects in the manufacturing and transport sectors.

1.39 The major constraint on the rate of implementation of planned capital expenditure is likely to be deliveries of materials and equipment because of the long supply pipeline and the irregularity of shipping. If construction capacity is to be kept operating at a reasonable level a large number of starts is necessary. About 56% of capital expenditure in the Plan period will consist of construction and civil engineering activity, but this should impose no bottleneck since the planned level involves a run-down in existing capacity.

1.40 Four major sections - agriculture, trading and marketing, transport and public utilities - together take 68% of planned capital expenditure. A very high proportion, 26%, of capital expenditure will be on agriculture, compared with 2% of the total in the previous three-year period. The phasing of this expenditure could be significantly affected by the rate

of popular acceptance of two projects for the improvement of peasant coconut production. The planned rates are administratively feasible but the actual rate will be determined by the social acceptability of the programme. Trading and marketing commands 10% of expenditure because of one major project, and because Outer Island Co-operative capital development is partly financed through this sector. Transport investment is 16% of total because of two major projects on Tarawa, both of which have been under consideration for several years - the improvement of Betio-Bairiki communications, and Betio Port Development. The former project will result in considerable savings on current expenditure. An unduly high proportion of total investment - 16% - is still directed into public utilities for the benefit of residents in urban Tarawa. This level of expenditure is considerably below that recommended earlier. Plan policies should assist in reducing the future rate of growth of urban population and future investment requirements.

1.41 Directly productive investment amounts to 29.8% of the total; investment in economic services will be 27.7%, and 42.5% will be spent on administrative and social services including 10.4% on education. Public utilities are classified within social services since some of the total investment is in facilities to meet essentially private household consumer requirements for water and electricity. Table 1.41 summarises capital expenditure in the Plan period. Data for the British Phosphate Commissioners is not available, but it is anticipated that investment will be negligible in view of the short remaining life of the deposits.

Table 1.41 - Capital Expenditure 1970-1972

$ '000

Sector	1970	1971	1972	Total 1970-72	Carryover 1970	Total New Project 1970-72	Sector % Total 1970-72
2. Agriculture	127.6	242.5	270.4	640.5	23.0	617.5	27.0
3. Phosphate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4. Manufacturing	30.0	15.0	15.0	60.0	10.0	50.0	2.3
5. Trading & Marketing	65.0	110.0	70.0	245.0	-	245.0	10.3
6. Transport	182.5	102.5	104.5	389.5	15.0	374.5	16.3
7. Public Utilities	156.5	139.7	79.0	375.2	14.0	361.2	15.3
8. Housing and Construction	82.0	5.0	-	87.0	69.0	18.0	3.
9. Information and Broadcasting	55.0	-	-	55.0	55.0	-	2.3
10. Education	87.8	87.1	74.9	249.8	5.0	244.8	10.
11. Marine Training	31.5	-	-	31.5	-	31.5	1.
12. Medical	27.0	20.0	20.0	67.0	7.0	60.0	2.
13. Administration	57.0	60.0	46.0	163.0	-	163.0	6.
14. Development Authority	20.0	10.0	-	30.0	-	30.0	1.
	921.9	791.8	679.8	2,393.5	198.0 *	2,195.5	100.

* of which expenditure after 31.3.1970 - $30.0

Development Financing

Local Revenue

1.42 The most important determinants of local revenue in the 1970's have already been mentioned, as has the inability of the present tax system to generate revenue increases from non-phosphate sources in line with income increases. New fiscal measures for the restraint of growth of per capita consumption would generate revenue to finance growing recurrent expenditure and a current budget surplus of around $500,000 per annum. Government revenue will, however, be affected by the transfer

of seivices to the Development Authority; in particular revenue from shipping services will be reduced by some ₹150,000 annually. Policy measures to increase charges for services remaining with Government to economic levels, or more nearly economic levels, for transport, electricity, water and medical facilities could increase revenue substantially. There will be additional revenue from the profits of the Development Authority, though these will be reflected in increased charges to Government.

1.43 Aggregate revenue requirements can only be assessed when the new pattern of current expenditure is established, but should be such as to generate an investible surplus of some ₹500,000 annually. It is important to note that the introduction of new tax measures need not await the reconstruction of Expenditure and Revenue Estimates, because quite apart from the target surplus their introduction is required to restrain consumption growth.

Colony Reserves

1.44 The Mooring Report considered at some length the level and rate of growth of Colony Reserves accumulated from current budget surpluses arising from increased phosphate taxation. It recommended that a proportion, 25% of estimated receipts from phosphate taxation, should be set aside annually and invested to yield income to finance Government services following the exhaustion of phosphate deposits. Plan strategy requires that per capita income increases be taxed out of the economy and that non-productive current expenditure be vigorously restrained. This should ensure a current surplus in the period 1970-1976 similar in amount to the Report target. It is provisionally estimated that the Colony should receive around ₹1 million annually of additional income from Ocean Island in the period 1970-1976, which would increase the current budget surplus to some ₹1.5 million annually - aggregating ₹9 million in the period. Colony reserves will total ₹4 million at the end of 1969, making some ₹13 million available for investment, less a small working revenue balance of ₹600,000.

External Aid, Reserves and Capital Expenditure

1.45 The Plan assumes the continuation of capital aid in the period 1970-1972 at ₹750.000 annually, and estimates of the National Income Cap in 1977-1986 assume continued aid at this level. With available reserves of ₹3.4 million rising by ₹1.5 million annually and aid totalling ₹2.160 million, the financing of the capital programme totalling ₹2.394 million clearly presents no difficulty. A small margin, plus certain other investments projected for 1971-1972 but not yet included in the Plan, can be financed from the Colony's own resources.

1.46 The Plan period covers calendar years 1970-1972 in line with the territory's financial year. United Kingdom aid, however, is provided on the basis of the U.K.'s financial year. External aid funds will not be available for financing new projects in the first three months of 1970 from the 1970 United Kingdom aid allocation, and supplementary provision will be required for the three-months period possibly through switching unexpended and allocated aid or by additional provision from the 1969 allocation, or alternatively from local resources. This is expected to total ₹100,000 in the three-months period. There has been a good deal of discussion of the use of reserves to finance capital development, or their commitment to a capital fund invested overseas to provide an income in 1977 and thereafter to meet recurrent budgetary deficits. It is apparent that, if external aid funds are inadequate to exploit investment opportunities offering a real rate of return comparable with that available on capital reserves invested overseas, then reserve funds should be used to undertake those local investments. Current budget surpluses should not be tied, formally or informally, to the build-up of reserves but should be available for local investment at a comparable real rate of return, when external aid funds are inadequate. Current savings, whether invested overseas or locally, totalling ₹12.4 million in 1977 should generate annual income totalling ₹1 million.

CHAPTER 2 - AGRICULTURE

General

2.1 Agriculture in the territory consists of the production of a single cash crop, copra, and a limited range of subsistence crops, primarily coconuts, babai, breadfruit and pandanus. An Agricultural Department was not formed until 1963, and it has only been in very recent years that emphasis has been placed on development in this sector. Subsistence production, however, has kept pace with a rising population whose nutritional status on a subsistence diet is generally high by any standard, and exceptional by less developed country standards.

2.2 The Mooring Report commented,"Strengthening of the (Agriculture) Department's activities are of key importance to the development of the territory, and a strong Agriculture Department will be a mainspring of the efforts for bringing this development about." The priorities in this Plan endorse this view and the rate of expansion of the Department and investment in agriculture is only constrained by the ability to obtain, train and absorb staff. The cost will be high, but should yield an economic return.

2.3 Little data, unfortunately, is available on which to base the preparation of the agricultural programme. There is, however, sufficient to justify the projects included, but it is intended that the programme will be modified and improved as it is implemented.

2.4 Copra production has provided around 20% of the Colony's National Income over the last decade, yet there has been very little investment in the industry. Production at a postwar annual average of 7,000 tons is well below the territory's theoretical maximum of 30,000 tons after allowing for subsistence coconut consumption (based on existing technical knowledge). Despite the general undesirability of relying on a single major commodity which is subject to large short-run price fluctuations and longer-run possibilities of substitution, the limited possibilities for the diversification of income, explored in other sections of this Plan, dictate an increasing contribution to National Income from copra.

2.5 The programmes planned provide for the improvement of peasant groves, the planting of vacant land, the development of plantations, improved transport arrangements, and wider and more intensive provision of advice and supervision. A major step forward will be the start of a sizeable programme of coconut research. The magnitude of the problem, in local terms, means that only limited headway can be made in the Plan period 1970-1972, but the programme will continue for the rest of this decade. Significant results in terms of income generated should be achieved in the 1970's, but major benefits from new planting will not be available until the middle 1980's.

2.6 Limited extension effort will be made by the Department in the subsistence sector, to make available in the field the results of the Plant Introduction and Livestock Improvement Programme. Major livestock development of pigs and poultry must await the outcome of feasibility studies on copra and flour milling, because a local foodstuff is essential to improvement.

2.7 The main constraint on the rate of development of the coconut programme is the build-up of Agriculture Department (and Co-operative) staff adequately trained at all levels. It is intended that the number of senior officers, 10 at present, should be increased to 18 by 1971. It is imperative that adequate technical advice and inspection facilities be available in the field to cover each phase of the coconut subsidy programme and the demands on staff will be high.

2.8 Although Departmental Extension and Research effort will be concentrated on coconuts in the Plan period and beyond because of known economic returns, small-scale investigational work will continue particularly on the development of high value cash crops which, if they show promise, will be systematically explored.

2.9 Development projects are planned for timber production, fisheries research and commercial production. There are significant opportunities for import substitution in these fields. The projects outlined require detailed investigational work, but it is hoped that they will be ready for implementation in 1970 and 1971.

Manpower

2.10 Staff training, particularly at field level, has begun locally, and trained Agricultural Assistants will be available from 1970 onwards, together with additional local Field Officers returning from training overseas. Training staff will participate in the development, and in certain cases the teaching, of rural science and development courses for primary and secondary education. The Training School for Agricultural Assistants has been constructed during 1969, of local materials.

2.11 The expansion of Department Staff is critical to the development programme, in terms of geographical and functional coverage.

Table 2.11 - Staff

	1969			1970-1972			Long Term Requirement		
	Prof.	Sen. Tech.	Jun. Tech.	Prof.	Sen. Tech.	Jun. Tech.	Prof.	Sen. Tech.	Jun. Tech.
Head of Dept.	1	-	-	1	-	-	1	-	-
Senior Agricultural Officer	-	-	-	1	-	-	1	-	-
Extension	1	4	3	3	6	24	1	10	18
Training	1	-	-	2	-	1	1	-	1
Research	2	1	2	1	1	3	2	2	4
Forestry	-	-	-	1	-	-	-	-	-
Fisheries	-	-	-	1	-	-	1	-	-
Produce and Pest Control	-	-	-	-	1	3	-	1	3
	5	5	5	10	8	31	7	13	26

Additional professional officers at Agricultural Officer level are required for field extension on the coconut programme. Two are needed to cover the Gilbert and Ellice Islands and for headquarters relief, and a third to establish coverage and prepare for major developments in the Line Islands. An officer to advise on Agricultural Co-operatives is required to assist in the consolidation and development outlined in paragraph 2.22. He will be posted to the Co-operative Department but his role will be critical to Agricultural Co-operative establishment and expansion. The availability of Field Officers in charge of programmes for small groups of islands depends on the despatch and return of local men from overseas training. Agricultural Assistants locally trained will assume increasing responsibility for extension and the coconut programme on individual islands, and all posts should be filled by 1972, although training will not be completed until 1974.

2.12. A Fisheries Officer is being recruited initially to undertake investigational work and a small commercial fishing operation. A

Volunteer to plan and implement a timber production programme is also being recruited; if one is not available an Adviser will be sought on a temporary basis within the Western Pacific to prepare an investigation and planting programme for implementation in the Plan period.

Coconut Development

Peasant Production

2.13 Existing peasant production of coconuts is wholly within the Gilbert Islands and the Ellice Islands. After allowing for coconut consumption, copra production has remained steady at an annual post-war average of 5,000 tons, though with marked annual production fluctuations. In an effort to stimulate the industry, a tax rebate incentive scheme, a tool subsidy and a coconut planting campaign have been introduced in recent years, but the results of these have been disappointing. No effective incentives have yet been offered to encourage regular working of groves, and to put over the concept and benefits of improvement as compared with traditional methods of production.

2.14 Exhortation has proved inadequate and if traditional habits are to be changed a package of incentives is required. The existing peasant producer is already highly taxed (39% of his notional gross receipts), and with small fragmented landownings individual income is small. The returns from improvement are 4-10 years distant and can only be obtained if land is worked in reasonably large acreages. The overall benefits of many days of hard labour to plant and maintain land with distant returns, probably endangered by traditional practices on adjoining lands, are not readily apparent to the landowner. There is, however, an increasing awareness of the consequences of the future loss of phosphate income, the problem of population pressure on land, and the need for improved output accompanied by a willingness to work regularly for a cash wage.

2.15 The provision of cash incentives for investment in coconut development should turn the scales, and pay good economic returns in the context of the territory. Accompanied by transport improvements, improved collection, pest control and other measures, it will substantially increase outer island incomes. It is also intended that other incentives, in the form of a wider range of consumer goods, should be provided on outer islands. During the Plan period new planting will be concentrated on the substantial acreage of land which is presently unplanted. Only in the late 1970's will decisions have to be made whether to clear or underplant improved groves. By that time the effects on grove yields of improved management should be known, and further evidence will have been obtained on the effects of underplanting on tree growth.

2.16 It is intended that application should be made for consultants to be appointed to prepare a report and recommendations on all aspects of Copra Marketing, including price stabilisation and incentive effects.

2.17 Incentives alone are inadequate for a major increase in production because the traditional system of working land will not permit efficient utilisation. The present programme is geared, as are the incentives, to changing and improving methods of working.

Land Ownership and Management.

2.18 The major barrier, apart from investment incentives, to the systematic improvement of the coconut industry is land fragmentation, although the communal system in the Ellice Islands reduces the problem there. Landholdings are small and scattered, both on and between islands, and ownership and boundary details are frequently in dispute. Land boundaries are not mapped and acreages are not known. Recent aerial photography has demonstrated the inaccuracy of previous

estimates of island areas. Cadastral surveys to establish exact land areas would be prohibitively expensive and time-consuming. Land consolidation would take one or two decades to organise in view of the number of individual lands and lengthy negotiations on problems of land quality and relative values, and can be disregarded as a practical possibility - certainly impossible within the period that coconut production must be increased.

2.19 It is therefore intended to approach the Directorate of Overseas Surveys with a request for the appointment of an expert under Technical Assistance to review the land tenure system in the Colony and to advise on related problems such as lands legislation, land codes and the system of land registration.

2.20 Movement towards a communal system of land working is necessary. A limited amount of land has been pooled for planting on islands under the old Coconut Campaign, and the recently established Producer Co-operatives on Nonouti are based on joint working of land. In both cases full ownership remains with the original owner; In the latter case a land rental is paid related to the current production of copra by reference to the number of bearing trees, so that acreage becomes irrelevant. It is proposed to build on this system by gearing subsidies to minimum-sized blocks of land so that there is a positive cash incentive to pool. Subsidies will be payable in relation to the number of trees newly planted or left standing after thinning, per acre. Technical requirements as to block size and number of trees per acre will be, within limits, at the discretion of the Agricultural Department as will inspection of work. The distribution of subsidy paid on an acreage basis to individual landowners will be locally determined on a trees/plot basis and in conformity with Co-operative principles. Extensive and careful publicity is required to ensure that the scheme is fully understood and that no change of ownership is intended.

Producer Co-operatives

2.21 Two Coconut Producer Co-operatives are established on Nonouti, operating on approximately 500 acres involving the participation of several hundred individual landowners. Land for planting has been communally cleared and copra is being produced from existing groves, which are also being thinned and improved. The scheme is being operated by Co-operative members, on a roster basis, who are themselves frequently the landowners or their appointees; in addition to daily wages a tree rental, based on the number of bearing trees per land, is being paid. The success of these Societies should do much towards solving the problems of agricultural development posed by fragmented landholding and absentee ownership.

2.22 Financial assistance has been made available through the Agricultural and Industrial Loans Board, and the schemes are locally managed with assistance from Agricultural and Co-operative officers temporarily resident on the island in matters of management, particularly financial and technical. Continued close support is planned and although numerous requests are received to start new Co-operatives these are being held back pending the consolidation of the existing ones. Expansion is planned on the basis of experience gained in 1969 with the existing schemes. It is proposed that a Co-operatives Adviser be appointed to develop further projects over the Plan period.

2.23 Target acreages for new planting have been established for Producer Co-operatives on seven islands - Nonouti, Abaiang, Abemama, Nukulaelae, South Tarawa, Nui and Kuria - of 2,000 acres in 1970 and 1971 to gain full-scale experience of problems and benefits. Care will have to be taken, however, to ensure that Societies are not imposed on the people and that they are only started when members appreciate the need and are prepared to give them their full support. The availability of investment subsidies

will materially assist the existing Co-operatives which will immediately qualify. Subsidies would be made retrospective to existing Societies. Only a small sum is involved.

Private Producer Groupings

2.24 Producers who are not prepared to operate land on a fully co-operative basis will have to pool land into minimum twenty-acre blocks as a first condition of eligibility for either planting or improvement subsidies. This is the minimum acreage necessary to prevent the benefits of the schemes being prejudiced by neighbouring unimproved land.

Subsidy Schemes

2.25 Subsidies will be paid for grove improvement, new planting and maintenance. The subsidy for each acre will be met by Government grants, financed initially from Overseas Aid. Target acreages for 1970 and 1971 are low because of the time required to build up the staff of the Agriculture and Co-operative Departments, and the need to establish a structure for the administration of the schemes. The initial emphasis will be on producer co-operative schemes, but this will be kept under review. The main objective is to expand as rapidly as possible the Colony's acreage of newly planted coconuts and improved groves. Every effort will be made to improve upon the 1972 targets; and this is expected to be attainable for the grove improvement scheme. The minimum acceptable acreages for grove improvement in 1973-1976 is 10,000 acres annually rising to 12,500, whilst the new planting rate will be stepped up to 4,000 acres annually in the same period. Table 2.25 summarises the longer-term objectives of the subsidy schemes which will radically re-organise peasant production by 1976-1977. The realisation of these objectives is essential to the development strategy outlined in Chapter 1.

Table 2.25 - Coconut Development Targets

	Acres		
	Grove Improvement	New Planting	Maintenance
1970	2,100	800	-
1971	3,600	1,200	2,900
1972	5,500	1,850	7,700
1973	10,000	4,000	15,050
1974	12,500	4,150	29,050
1975	12,500	4,250	45,700
1976	12,800	4,250	62,450
1977	-	4,500	79,500
1978	-	-	84,000 and thereafter
Total	59,000	25,000	

2.26 The direct costs of the subsidy scheme are estimated below, but there are certain additional capital costs for nursery establishment, outer island housing (local materials) and other smaller items. These are itemised in Table 2.26

Table 2.26 - Coconut Development

	$ '000		
	1970	1971	1972
Nursery	5.6	8.4	13.0
Outer Island Housing	6.0	6.0	6.0
Miscellaneous	2.5	2.5	4.5
	14.1	16.9	23.5

Grove Improvement and Maintenance

2.27 The estimated acreage of coconuts in traditional grove production in the Gilbert Islands and the Ellice Islands is 59,000 acres. The improvement programme involves the elimination of non-bearing and young palms, leaving bearing palms reasonably spaced at an average of 87 trees per acre.

2.28 Target acreages are shown below. It must be emphasised that the achievement of targets is dependent both on the successful build-up of staff and the response of producers to the scheme: the time-scale may have to be extended in the light of experience.

Table 2.28 - Grove Improvement and Maintenance

	Acres	
	Improve	Maintain
1970	2,100	-
1971	3,600	2,100
1972	5,550	5,700

2.29 Subject to further examination, it is proposed that the subsidy will be paid at the rate of $7.83 per acre to cover the cost of labour and tools in Year 1, and at $3.48 per acre thereafter each year for blocks of a minimum size of 20 acres. Alternatively, in respect of each block, subsidies may be paid at the rate of 9 cents and 4 cents per tree, but in no case will payment be made for more than 87 trees per acre. Acreages and improvements required will be assessed by the Agricultural Department after consultation with landowners' nominated representatives, and payment will be made to those representatives on certification by a member of the staff of the Agricultural Department that work has been satisfactorily completed.

2.30 Estimated annual payouts of Improvement and Maintenance Subsidies on the basis of the targets given, are:

Table 2.30 -- Subsidy Payouts

	Acres	$ '000
1970	2,100	16.5
1971	5,700	35.5
1972	11,250	63.4

2.31 It is estimated that the improvement in yields will be better than 50% as a consequence of removing the fire hazard, improved nutritional and sunlight status of trees, lower nut wastage and easier nut collection, and assistance in rodent control. The estimated increase in output from 59,000 acres improved by the end of 1976 is likely to be approximately 4,500 tons for 1978 worth $450,000 (Value added) to the economy.

New Planting

2.32 The estimated unproductive land in the territory is 25,000 acres, that is, land either unplanted with coconuts or very thinly planted (0-30 trees/acre). The object of the second subsidy scheme is to get this land cleared of bush and planted as rapidly as possible.

2.33 The subsidy will be paid at the rate of $17.40 per acre (or 20 cents per tree) to cover the cost of bush clearing, lining, planting, fertilizer, mulching, etc. in Year 1, and at $3.48 per acre (or 4 cents per tree) thereafter annually for a minimum block of 20 acres. Acreages and the standards of improvement required will be assessed by the Agricultural Department after

consultation with Co-operatives or landowners' nominated representatives, and payment will be made to those representatives on certification by a member of the staff of the Department that work has been satisfactorily completed.

2.34 Estimated annual payouts and target acreages which, as for improvement and maintenance, may have to be revised in the light of experience, are:

Table 2.34 - New Planting - Target and Payouts

	Acres		$ '000
	Plant	Maintain	
1970	800	-	14.0
1971	1,200	800	23.6
1972	1,850	2,000	32.0

2.35 The estimated output from 25,000 acres of new planting is 10,000 tons yearly /worth $1,000,000 (Value Added) to the economy/. Production should begin in 1979 and build up to that level in 1986.

Copra Collection Scheme

2.36 There is evidence on many islands that the entire coconut crop is not harvested. Apart from poor grove maintenance, this appears to be chiefly attributable to outlying lands and absentee landowners, to the inadequacy of transport arrangements for the collection of copra from groves, and to difficulties of access to groves. This is particularly so on islands lacking roads or causeways, or where population is concentrated at a few points, leaving outlying areas uninhabited.

2.37 Experimental schemes will be initiated as soon as possible, in some cases associated with the coconut development programme, to arrange for the collection of coconuts through gangs of daily-paid wage labour organised through the Island Retail Co-operatives. Landowners not themselves in a position to operate their lands effectively will be offered a tree rental as an inducement to participate in the scheme. Two such schemes on a joint Agricultural Department/Co-operative Department basis will be under way during 1970. A nominal $1,000 is allocated for each year.

Island Transport

2.38 Coconut development with improved output and collection of copra will require improved transport within islands. Certain islands with roads and causeways are at present more or less adequately served by trucks over the larger distances, but there are difficulties in moving coconuts or copra from the grove to the truck collection point. Other islands, particularly those bisected by passages which cannot be crossed on foot depend mostly on canoe transport to move copra to the central Island Retail Store. Two small schemes are proposed.

2.39 The first involves the regular production and distribution of bicycle trailers and handcarts in the territory. There is an unsatisfied demand for these but no regular ordering and no regular production, so that the limited number that have been made are produced sporadically and at high cost. A small fund to finance the manufacture by the Wholesale Society of trailers at a minimum rate of 50 per annum will ensure availability through the Island Retail Co-operatives - they may also be made available on a hire basis. The aim will be to reduce the cost below the present $58.00. The administration of the scheme will be as simple as possible and $2,500 has been allocated to get production started.

2.40 The second scheme is for the experimental provision of three powered boats capable of towing a payload of 2-3 tons. Five

such boats are already operated by Retail Co-operative Societies. Other Societies operate six launches and sailing craft. The initial plan is for three such boats with associate locally-built dumb-boats to be built in 1970-1971. A scheme for the management and control of the boats is being developed, and an engine pool is being considered to overcome the problem of outer island maintenance. Estimated capital cost per boat unit is $3,000, and operating costs, including depreciation and boat operator, is 13 cents ton/mile or 30 cents per running mile. The estimated cost of using the boat for copra collection is $5.00 per ton for two round trips of twenty miles each to move a work gang out and back with a separate journey for copra collection. Investment will be $9,000 in 1970-1971, and will be modified and extended following experiments in 1970, with estimates of additional copra lifted.

2.41 Agricultural Department officers resident on outer islands require three further boats, and provision of $6,000 is made for this purpose.

Tool Subsidy

2.42 There is already a tool subsidy financed by the Copra Board to provide half the cost of a set of tools required for coconut planting and grove improvement. Estimated annual cost is $2,000 and it is proposed to continue this in 1970-1972 in connection with coconut improvement.

Rodent Control

2.43 A rodent research project has been under way in the Colony since 1968 to assess the damage to coconut production by ship rat and Polynesian rat. Ship rat has made particular inroads on Tarawa, Butaritari, Abaiang, Funafuti, Nukulaelae and Nanumea, and a programme of control will be undertaken in the Plan period. Polynesian rat causes appreciable crop losses in neglected areas of the wet islands, Makin in the Gilberts and most of the Ellice Islands, but control measures will be left in abeyance until land improvement has been undertaken, which may itself avoid or reduce the need for rodenticides.

2.44 The costs of the ship rat programme which will be undertaken in co-operation with landowners is $13,500 in 1970, $7,000 in 1971 and $2,500 in 1972. The programme will be expanded as necessary. Figures derived from experimental work over the period of one year suggest that the increased yields in controlled areas are up to 7 times the cost of the control measures required.

Plantation Production

2.45 Plantation production of copra is centred on the Line Islands, 2,000 miles from Tarawa. Two plantations operate there and jointly produce an annual average of just over 2,000 tons using a small imported labour force. The potential for increasing copra production is high since the problems of land fragmentation and a subsistence population are not present. The appointment of an Agricultural Officer to be stationed there is a first step towards implementing improvement programmes. As development proceeds it will be necessary to improve inter-island transport arrangements.

Christmas Island Plantation

2.46 This Plantation is Government-owned and comprises some 13,000 acres of a potential coconut-producing area of 23,000 acres. The yields are low, as many of the trees are old, and little successful replanting has yet been done. Considerable

investigational work has now been undertaken and a development programme for the plantation is to be prepared in the near future so that the island can be planted to full potential in the period 1971-1975, provided detailed appraisal proves the scheme viable. The potential estimated production is 3,000 tons per annum, worth some $300,000. The capital costs of development are estimated at $400,000 over the five years. It is proposed that the plantation should be operated commercially under the aegis of the Development Authority.

Fanning Island and Washington Island

2.47 These islands, 8,500 and 2,360 acres respectively, contain some of the best land in the Colony. They are privately owned by an Australian Company, Fanning Island Plantations Ltd. Annual copra production has averaged about 1,600 tons and is declining, compared with an estimated potential of around 5,000 tons, fully developed. Part of Fanning Island is operated as a plantation proper, whilst Washington comprises unimproved groves. There has been very little investment in planting or grove improvement, and most of the trees, on Fanning Island particularly, are now over sixty years old, so that unless investment is made, continued decline and loss of revenue must be anticipated.

2.48 The economic circumstances of the territory are such that there is a need for all major potential revenue producers to be fully developed with the least possible delay. Here this should be achieved through the systematic planting of Fanning Island and the improvement of groves on Washington Island. Investment to this end would normally be undertaken by the owning Company itself to ensure future income from its assets, but problems of distance arise in this case and it may be appropriate for Government to encourage and stimulate the desirable future development.

2.49 It is seen as being in the Colony's immediate interest that early re-development of Fanning and Washington Islands should be undertaken which will involve the replanting and improvement of existing groves to a total of some 8,000 acres over the shortest possible period. Plans for the further development of these islands cannot be formulated precisely unless further agricultural investigation is made and discussed with the present owners, but it is estimated that investment required in 1971-1972 will be $72,000.

Land Reclamation

2.50 An existing scheme for the reclamation of approximately 80 acres of land on Maiana cannot be justified on economic grounds. The estimated cost of reclamation is $18,000 or $225 per acre. Only 30 acres of land are likely to be suitable for agriculture, so the effective cost of reclamation would appear to amount to $600 per acre. There is, however, no major land shortage on Maiana, and although the project has been termed a pilot scheme the land is thought to be untypical of other potentially reclaimable land in the area. Part of it has previously been subject to reclamation by manual methods, and it is possible that the Local Council may wish to make a further attempt on these lines.

2.51 A more substantial pilot reclamation project is proposed for South Tarawa, where land is in short supply and expensive to acquire. This will offer the opportunity to experiment with reasonable prospects of economic success at low cost. An engineering report as to the feasibility of the scheme has been completed. The area comprises 760 acres at Temaiku Bight adjacent to Bonriki Airfield, and the project involves the construction of 2-3 miles of raised road/bund across tidal mudflats which are only covered at high tide. The estimated cost is $25,000 or $33.00 per acre. It is proposed that some 400-500 acres be reclaimed for agricultural purposes, of which 250 acres will be planted with casuarinas. A further 10 acres is

required for a telecommunications aerial farm during the Plan period, and the balance of the land would be available for coconut development or building. The road across the bund to Bonriki Airfield will reduce the distance from Bikenibeu by two miles, effecting savings in maintenance and travelling time. The project is scheduled for completion in 1970, when agricultural experimental work will commence.

Agricultural Research

2.52 There is urgent need for expansion in coconut research. This is a field in which little has hitherto been done, except in rodent control. A programme to provide information on frond drop, yield records, palm age, grove density, coconut consumption, nut analysis, varieties, grove improvement, underplanting, nutrition, field techniques and the production of hybrid nuts has been laid down. The production of hybrid seed-nuts in connection with planting is being organised in the British Solomon Islands Protectorate and transfer of some nuts to the Colony will be effected. Capital requirements of the research programme in the Plan period are:

Table 2.52 - Coconut Research

	$ '000
1970	15.0
1971	6.0
1972	6.0

Returns from these investigations will be long term, but certain benefits will accrue in the short run, notably improved statistics on yields and consumption, and the effects of grove improvement.

2.53 Facilities developed in connection with the Plant Introduction and Livestock Improvement Programme, which terminated in 1968, have been placed on a care and maintenance basis which will involve minimum livestock investigational work and make few demands on senior staff, pending further information on the possibility of locally produced animal feedstuffs.

Plant and Animal Importation Control

2.54 The territory is remarkably free from plant and animal disease, largely because of its geographical position. Improved communications, however, increase the dangers of importing pests and diseases such as the rhinoceros beetle from Fiji. Improved legislation for the rigorous control of plant and animal imports is necessary, and will be introduced as quickly as drafting capacity permits.

Timber Development

2.55 Timber used in the Colony outside the subsistence sector is at present wholly imported and is expensive. In 1968, imports totalled some 403,000 super feet valued at $113,000 (f.o.b.Aust.). A preliminary investigation of the possibility of substituting locally produced timber for imports has demonstrated that this is feasible with a considerable saving in cost over the imported product and with considerable economic benefits to the Colony.

2.56 For full investigation and development of the scheme, efforts will be made to recruit a Volunteer Forester or Forestry Graduate to investigate the growth, use and treatment of indigenous timber and the establishment of exotic varieties. If a Volunteer is not available, a Forestry Specialist from within the Western Pacific region will be obtained to prepare a programme for implementation within the Agricultural Department.

2.57 The Casuarina, an exotic species, is established in the Colony with good growth characteristics and a proposal has been outlined for the development of 250 acres of the species to produce an

annual output of 500,000 super feet on a fifteen-year rotation at 2,000 super feet per acre per year. Estimated ex-sawmill costs are of the order of less than 10 cents per super foot, which is around 35% of the present landed cost of imported timber, and allow for a rate of return to the landowner at least equal to that obtainable from a good coconut plantation. Estimated costs of establishment during the period 1970-1972 are of the order of $50,000. Provision of a mill will be necessary in the late 1970's. The development of the project in the Plan period is provided for, subject to specialist advice on detailed planning. Investigations will also be set on foot to find out whether any other species would be better suited to local conditions.

Fisheries

2.58 There is no systematic commercial fishery or fish marketing in the Colony and there is little knowledge of local fish ecology. However, it is hoped to recruit a Fisheries Officer in 1969 to commence research and the investigation and development of fisheries projects.

2.59 A South Pacific Commission/United Nations Development Programme Fisheries Mission visited the Colony in 1969 to investigate the possibility of establishing a large-scale commercial tuna fishery project. The Report of the Mission has recently been received but has not yet been studied. It is understood that the Mission ruled out the possibility of large-scale tuna fishing to serve export markets. A proposal to purchase a 40 ft. vessel fully equipped for ocean going fishing and research and commanded by a professional tuna fisherman will be considered. In addition to research, the boat would fish commercially, supplying up to five tons weekly for the urban Tarawa market. A major function of the scheme would be to train local fishermen in commercial techniques, and great care would be taken not to discourage men already earning their living from fishing. Detailed consideration of such a proposal awaits the Mission's report and investigation by the Fisheries Officer. The economic viability of the scheme is also subject to investigation prior to firm inclusion in the Plan. A tentative estimate puts the capital cost of the project at $50,000.

2.60 A small-scale fisheries project is being developed for early implementation, subject to the advice of the Fisheries Officer. It is intended to train local islanders to use a small fleet of 3-4 boats, locally built and operating relatively close inshore, to produce 2-3 tons weekly for the Tarawa urban market. The estimated value of sales is $1,000 to $1,500 weekly, $50,000 to $75,000 annually, with a total estimated capital cost of $20,000 in the period 1970-1971. This project should effect a considerable import saving. Successful trainees would be encouraged to purchase the boats with funds provided by the Agricultural and Industrial Loans Board.

2.61 It is planned that the scheme would be operated through the Development Authority, with maintenance provided by the Engineering Division and management assistance from the Fisheries Officer. Marketing will be arranged through Tarawa's three main retail outlets.

Expenditure on Agriculture 1970-1972

2.62 The estimated costs of these capital programmes over the Plan period are given below.

2.63 The share of Agriculture in the Government Budget increases from 2% of recurrent expenditure in 1968 to 3.2% in 1969, and to 4.1% in 1970. Capital expenditure increases from 2% of total in 1967-1969 to 26% of total in 1970-1972. For certain projects detailed capital cost awaits the outcome of further investigations.

Table 2.63 - Expenditure

No.	Project	$ '000 1969	1970	1971	1972
Carryover					
2.51	Temaiku Reclamation	2.5	23.0	-	-
New					
2.19	Land Tenure Review	-	T	T	
2.28	Grove Improvement	-	16.5	35.5	63.4
2.34	New Planting	-	14.0	23.6	32.0
2.26	Coconut Development	-	14.1	16.9	23.5
2.37	Copra Collection	-	1.0	1.0	1.0
2.39	Bicycle Trailers	-	2.5	-	-
2.40	Outer Island Boats	-	4.5	4.5	-
	Department O.I. Transport	-	2.0	4.0	-
2.42	Tool Subsidy	-	2.0	2.0	2.0
2.44	Rodent Control	-	13.0	7.0	2.5
2.46	Christmas Is. Development	-	-	80.0	80.0
2.49	Fanning and Washington Islands Development	-	-	32.0	40.0
2.52	Coconut Research	-	15.0	6.0	6.0
2.57	Timber Development	-	10.0	20.0	20.0
2.59	Fishing Scheme	-	T	T	T
2.60	Small Fishing Scheme	-	10.0	10.0	-
	Total	2.5	127.6	242.5	270.4

/Chapter 3 .....

CHAPTER 3 - PHOSPHATE INDUSTRY

General

3.1 Phosphate mining at Ocean Island is undertaken by the British Phosphate Commissioners, a non-profit making organisation owned by the Governments of the United Kingdom, Australia and New Zealand in the proportion 42%, 42% and 16% respectively, subject to adjustment in accordance with their actual requirements. The Board consists of three Commissioners, one appointed by each Partner Government, and is charged with supplying the three countries with phosphate at cost price in the same proportion as their financial stake. The Colony Government's interest in the concern is looked after by the United Kingdom Government which appoints and directs the U.K. Commissioner. Thus the Colony Government has no direct control over the British Phosphate Commissioners' activities. The efficiency of operations and the selling price of phosphate determine what revenue is available. The greater the revenue the less external aid the Colony will require when the deposits are exhausted in 1976-1977.

3.2 Since World War II mining output has expanded from around 200,000 tons annually to a current 555,000 tons, with 4,330,000 tons of reserves in the ground at the end of 1969. Of this quantity, 125,000 tons lie in areas not yet leased for mining but mineable, and a further 530,000 tons lie in areas which have been leased for building purposes only. It is uncertain how much of the latter could be economically mined if the lands could be leased. Mineable deposits probably amount to between 3,500,000 and 4,000,000 tons which at the present rate of extraction means that operations will cease in 1976.

Income

3.3 The British Phosphate Commissioners are a non-profit making organisation, and after meeting production costs the surplus between cost and sale price is available for distribution. The Commissioners make lump sum payments from time to time to individual Banaban landowners in respect of surface rights for the lease of specific areas of land. In addition, the Banaban community receives a royalty and the Colony Government levies phosphate tax in respect of each ton of phosphate removed.

3.4 A series of negotiations, particularly during the last five years, has increased the volume of output and the price of phosphate to a considerable degree. These negotiations have led to some redistribution of income between the Banabans and the Colony Government. Table 3.4 outlines the distribution of income, the output and the selling price of phosphate.

Table 3.4 - Production and Income (1946 - 1968)

	Tons '000 Exported	Average f.o.b. Price £/ton	Receipts Banaban £ '000	Colony £ '000	Receipts £/Ton
1946	50	n.a.	4	45	1.00
1947	209	"	26	85	0.92
1948	125	"	16	70	0.61
1949	261	"	33	14	0.49
1950	247	"	31	91	0.50
1951	252	"	32	222	1.00
1952	282	"	35	275	1.10
1953	285	"	36	278	1.10
1954	294	"	37	287	1.10
1955	309	"	39	309	1.11
1956	297	"	37	345	1.13
1957	293	"	37	410	1.51
1958	324	"	44	453	1.52
1959	314	"	39	440	1.51

/continued.....

Table 3.4 (continued) - Production and Income (1946-1969)

	Tons '000 Exported	Average f.o.b. Price £/Ton	Receipts Banaban £'000	Receipts Colony £'000	Receipts £/Ton
1960	320	"	88	672	2.38
1961	336	"	115	705	2.45
1962	256	5.00	81	538	2.41
1963	377	5.00	119	867	2.60
1964	325	5.00	98	748	2.60
1965	361	5.00	144	1,034	3.25
1966	375	8.00	206	1,292	4.00
1967	450	10.00	315	1,767	4.65
1968	523	11.00	414	1,976	4.55

3.5 In 1969, estimated output is 555,000 tons at a nominal average f.o.b. selling price of £11.50 per ton - grossing £6,382,500. The Banabans receive a royalty of 20 cents per ton (estimated to be worth £115,000 in 1969) and the proceeds remaining after the British Phosphate Commissioners' costs are covered, are divided between the Colony Government and the Banabans on the basis of a formula, the effect of which is to give the Banabans 15.12% of the overall benefits, inclusive of the 20 cents per ton royalty, and the Colony Government the remaining 84.88%.

3.6 Since the overall benefits represent the whole of the difference between the cost of production and the basic price, special arrangements have been made for the treatment of Colony taxes, other than phosphate tax, arising from the industry. The Commissioners and their employees are liable to normal Colony taxation, duties and licence fees, but tax paid by employees is refunded by the Commissioners. The total amount of normal taxation paid by the Commissioners and their employees is deducted from the phosphate tax payable.

3.7 The increased dependence of the Colony Government on receipts from Ocean Island is outlined in some detail in Chapter 1, and was commented on extensively in the Mooring Report. Since 1960, some 42% of current budgetary receipts have come from phosphate taxation, and although a proportion of phosphate income has been put to reserves, the Colony has developed a higher level of services from its own resources than it could otherwise have afforded without the necessity for external budgetary support. Direct employment of Colony labour has been provided at income levels higher than those obtainable elsewhere in the territory.

3.8 The economic and financial crisis that the Colony faces in 1976 is a direct consequence of the loss of income from phosphates, and it is essential that incomes from Ocean Island during the remaining life of the deposits should be maximised.

Income 1970-1978

3.9 The level of funds available for distribution in the remaining life of the operation is the difference between the cost of producing the phosphate and the selling price f.o.b. Ocean Island. It is therefore in the interests of the Colony, the Banabans and the United Kingdom that this margin should be widened as far as possible.

3.10 At present, the selling price of Ocean Island Phosphate is linked with that from Nauru and it appears that in the past it has been considerably below the estimated world market price. Nauru has recently purchased the Nauru part of the assets of the British Phosphate Commissioners in order to produce its own phosphate through a Government-owned Corporation. The financial arrangements for Ocean Island phosphates from July 1970 are to be reviewed.

3.11 The mining operations may only continue for a further six

or seven years. At present prices the gross value of output in that period should be some $46 million. It is clearly of great interest to the Colony, both because of the revenue implications and as an aspect of forward planning, that the overall divisible benefits during the remaining life of the deposits should be at the highest level possible.

Expenditure on Phosphates 1970-1972

3.12 With seven years life remaining, little further investment in the industry may be expected.

Chapter 4 - Manufacturing and Service Industry

General

4.1 The limited variety of local natural resources, scarcity of water, high cost of imported energy, absence of a risk-taking private sector and limited local markets impose severe constraints on the development of manufacturing activity in the territory. However, the isolation of the Colony from sources of supply, high freight costs and its closeness to Nauru and the Trust Territory offer certain opportunities for increasing activity in the processing of local and imported materials for the Colony itself and neighbouring territories. Past development has centred on the maintenance of ships, vehicles, plant and buildings for Government, with subsequent diversification to local assembly of products from imported materials. This will be expanded along with the development of local materials. The territory should not continue to use imported materials where local substitutes are available - particularly for food and building requirements - and it is the intention that when satisfactory local products have been developed, import duties on overseas materials will be raised. Development of local materials will increase fabricating activities in the subsistence sector, which is currently limited to house and boat building, and the production of mats and handicrafts.

Small Scale Manufacturing

4.2 Labour is available at low economic cost. A demand exists for a range of products that can be produced in the territory with local resources, using maximum local materials to minimise imports. Such products include processed fish, timber, lime, twine and rope, sacks, tools, boats, trailers and bicycles. All can be produced by intensive labour methods using simple hand tools or machinery offering the prospect of increased incomes to the territory. It has been estimated that the gross value of production could total $250,000 annually, and the list is by no means exhaustive. The projects require detailed on-the-ground investigation and trials during the Plan period. Projects will be developed under the guidance of the A.S.P.A.P. Instructor attached to the Public Works Department as small scale manufacturing schemes and it is proposed that a graduate volunteer engineer will be recruited to assist to develop each project in close association with the appropriate Government Department or Development Authority Division. Those principally concerned are Agriculture, Co-operatives, Construction, Engineering and Police.

4.3 The Scheme's management and funds will be administered through the Development Division of the Development Authority. Where investigation shows the prospect of reasonable returns, projects will be implemented in association with Government Departments and other divisions of the Authority. Projects additional to those specified will be investigated by the Development Division, as capacity permits. Certain other projects based on intermediate technology principles have been included under the appropriate sector programme. /

4.4 The annual allocation of funds during the Plan period is $40,000. The projects will be seriously investigated, but it is unlikely that the results of these investigations will justify implementation in all cases. Many of the projects lend themselves to joint implementation with Co-operatives, who will be seeking to diversify sources of income. Table 4.4 summarises the schemes.

Table 4.4 - Small-Scale Manufactures

Project	Division or Department
1. Milling, Flour, Copra	Agriculture
2. Fish Salting, Drying, Production, other Marine Products	Agriculture
3. Hand Tool Manufacture	Engineering
4. Handicraft Production and Marketing	Co-operatives
5. Sack Making	Copra Board
6. Timber Production and Treatment	Construction & Agriculture
7. Furniture Production	Construction
8. Lime Production	Construction & Police
9. Bicycle Assembly	Trading & Engineering
10. Clothing Manufacture	Trading

Coconut Products

4.5 The manufacture of particle board from coconut timber has been the subject of preliminary study but the economic returns do not appear to justify the investment required. Coconut timber development has been investigated with promising results by the Public Works Department, and further investigation and utilisation will continue in the Plan period.

4.6 Further local processing of coconuts to produce higher-value exports has often been suggested. There is an additional demand for the by-products derived from coconut processing to be used for animal feed before worthwhile livestock development can proceed. Feasibility studies are to be undertaken into the production of coconut oil for export, with by-products for local consumption, and into the local production of desiccated coconut. $10,000 is allocated for the two studies, which may be associated with the study of copra marketing discussed at 5.10.

Tourism

4.7 The development of tourism depends to a large extent on the establishment of a through air link to the Trust Territory. Value added by tourism is likely to be small and Government investment cannot be justified on a large scale. Token provision only has been made in the Plan period to allow for promotional work. The possibility of private sector iniative, probably through air charter operation, will be pursued by the Development Authority through the Hotel and Travel Section of the Development Division.

Other Manufactures

4.8 The development of manufacturing by the Engineering Division of the Development Authority will be a major activity during the Plan period. Activities will be based primarily on the fabrication or assembly of imported materials with a wide range of products from bicycle trailers to boats. It is proposed that the Division should construct several small boats for lagoon work and fisheries, for lighterage, and a major vehicle ferry for service between Betio and Bairiki. The proposed Construction Section of the Division discussed in Chapter 8 is likely to experience a slow-down in activity following the completion of a major building programme, but the possibility exists for the export of pre-fabricated products, particularly housing, to neighbouring territories. This will be explored. Production of small items will be on a more systematic production-run basis to bring about a reduction in costs, and this will require regular ordering by the Trading Organisation and Government departments.

4.9 It is proposed that the maintenance facilities of the

Engineering Division should be built up during the Plan period through amalgamation of Public Works Department and Wholesale Society engineering activities, and the Division should, by the end of the Plan period, be solely responsible for all mechanical maintenance in the territory. A major mechanical workshop commenced construction in 1969 ($44,000) located at Betio and requires further investment ($10,000) during the Plan period.

4.10 Expansion in marine maintenance facilities will be investigated to meet Colony needs and to undertake work for other nearby Pacific territories. The Colony fleet currently costs some $150,000 in annual maintenance work undertaken in Fiji or Australia, mostly for dry docking and hull scraping. This cost excludes the very considerable expenses involved in moving the ship for dry docking, the costs of crew waiting time, and the uncertainties in programming when the work is undertaken overseas. The Engineering Division will investigate the further development of local facilities for the Colony fleet and undertake contract work.

4.11 The rationalisation of engineering facilities has not yet been planned to the stage where investment requirements can be estimated. No additional major requirement for expanded workshop facilities is envisaged other than that referred to at 4.9 above. Increased ship maintenance facilities would require investment by the Development Authority, but investigation is required before feasibility can be established.

Manpower

4.12 Small-scale manufacturing investigation and development will require the recruitment of one Engineer, preferably a volunteer. Amalgamated services in the Engineering Division will require staff transfers from the Department of Public Works and the Wholesale Society Field Division. The development envisaged in the Plan period will not require any expansion in expatriate staff and will offer increasing possibilities for self-sufficiency and exports.

Expenditure on Manufacturing 1970-1972

4.13 Estimated capital expenditure in the Plan period is low because of the need for investigational work to assess project feasibility and the planning of manufacturing and maintenance rationalisation. Table 4.13 gives estimated requirements but these may be subject to substantial additions during the Plan period.

Table 4.13 - Expenditure

Project		$ '000 1969	1970	1971	1972
Carryover					
4.9	Mechanical Workshop	44.0	10.0	-	-
New					
4.4	Small-Scale Industry	-	10.0	15.0	15.0
4.6	Coconut Processing Studies	-	10.0	-	-
4.7	Tourist Promotion	-	T	T	T
4.10	Engineering Division	-	T	T	T
	Total	44.0	30.0	15.0	15.0

Chapter 5 - Trading and Marketing

Wholesale Trading

5.1 The major part of wholesale trading in the territory is carried out by the Government-owned Wholesale Society. Annual wholesale merchandise turnover is currently well over $2,000,000, half of which is on Tarawa. The Mooring Report reviewed the Wholesale Society's trading operation and the difficulties experienced from private competitors on Tarawa, which result from the common price system operated throughout the Territory. The institutional re-organisation proposed in the Mooring Report is reviewed in Chapter 14 and will result in the creation of a Wholesale Trading organisation. This will be undertaken during the Plan period.

5.2 It is proposed to offer a minority interest in the Trading organisation to the Co-operative Movement, as an interim measure preparatory to the organisation becoming a Wholesale Trading Society wholly owned by the Movement.

5.3 Price margins, both between different types of commodity and overall, are under review. Wholesale trade is concentrated on a limited range of goods. 75% of the value of sales is from 175 items, so that margin increases required on low-turnover, higher-priced goods to cover high costs of handling and stocking are likely to bring little benefit by way of reduced margins on the high-turnover range of items.

5.4 The competitive position of the Trading organisation in Tarawa and neighbouring islands vis-a-vis the private trader isdetermined by the common price/pooled freight rate system. The system of cross-subsidisation to achieve equalised freight rates will cease during 1970 when sub-economic freight rates to Outer Islands will be directly subsidised by Government through the Development Authority. The Trading Organisation will then be able to compete with private traders, since Tarawa markups will not be unduly high to offset lower margins elsewhere.

5.5 It is proposed that improved wholesaling service in the territory should be brought about by a more aggresive buying policy, and that sources of supply, now primarily Australian, should be diversified when there is economic advantage in doing so. Attention will be paid to standardisation in many types of consumer durable and mechanical equipment, and to the requirements of Outer Islands. It is intended that the hiving-off of the remaining retail stores belonging to the Trading organisation will be undertaken early in the Plan period.

5.6 During the Plan period the Trading organisation will be separated from the Port where it currently uses in-transit warehousing and provides stevedoring facilities. Its own warehousing facilities are inadequate and substantial investment of the order of $100,000 is required in the Plan period. This will be financed, in the interim, by the existing parent organisation and in due course by the Development Authority. The investment programme of the Trading organisation must be consistent with the overall capital programme of Government, and it will be submitted to Government for inclusion in the Plan.

Copra Marketing

5.7 The Mooring Report reviewed the functioning of the Copra Board, a statutory body for the purchase and handling of copra. It was critical of the price stabilisation policy pursued and proposed an alternative system. Since the Mooring Report was published, the Board has resumed certain functions, chiefly administrative and clerical, previously handled on an Agency basis by the Wholesale Society. The latter, however, continues to be responsible for the physical handling of copra. The change has effected a considerable reduction in costs, and has similarly reduced Wholesale Society profits.

5.8 Copra produced has so far been sold by bulk contract in Europe, with the exception of a small amount sent to Australia. It is likely, however, that this arrangement will cease in the near future and sales will then be effected through Agents placing individual lots.

5.9 The Copra Board is comprised of Government officials and Cooperative Federation members, and has responsibility for organising internal marketing, producers' prices and the administration of overseas sales for what is currently the Colony's second largest industry (in the near future the largest industry), and only major source of export earnings.

5.10 Future policy requires systematic analysis of various possibilities. Two studies under Project 4.6 relating to marketing coconut products, oil and desiccated coconut, are to be undertaken in 1970 to investigate the feasibility of local production. A third study is to be undertaken by Consultants to investigate all aspects of copra and coconut marketing, including alternative markets, prices, grading systems, transport, producer prices and stabilisation policies, co-operative margins, etc., as a basis for future planning. $10,000 is allocated for this.

5.11 The primary marketing of peasant copra, running at some $700,000 annually, is undertaken by Primary Co-operative Societies acting as sub-agents of the Copra Board on Outer Islands. In the past their function has been passive, handling copra brought to them, but it is intended that they will play a more active role in encouraging the collection and making of copra in the Plan period. Provision has been made for collection and improved transport schemes in Chapter 2 and Chapter 6. Coconut Producer Co-operatives have been discussed in Chapter 2.

Retail Trading

5.12 Retail trading on Outer Islands, with the exception of Ocean Island and the Line Islands, is entirely in the hands of the Co-operative Movement, with an annual turnover of about $1,000,000. On Tarawa, the Wholesale Society directly operates two Retail Stores through its trading division. It intends to sell these but it will require the Agricultural and Industrial Loans Board to provide bridging finance of approximately $80,000.

5.13 Some 80 Retail Co-operative stores on Outer Islands will derive substantial benefits from the greater regularity of shipping services proposed in Chapter 6 with the consequent simplification of ordering and stock problems. Other measures required of the Trading organisation have been outlined above. Retail Co-operative merchandise markups are set at a low level, and these will be reconsidered at the same time as the review of wholesaling margins. With variable margins, Co-operative accounting systems will become slightly more complex. The competitive position of Retail Co-operative Stores on Tarawa, however, should improve.

5.14 The essential requirement during the Plan period for the development of Primary Co-operatives is additional training of Managers to improve the quality of management and reduce dependence on the Department of Co-operative Societies. The Department itself needs a new office to replace that destroyed by fire and $15,000 is allocated. Important diversification possibilities exist at Retail Store level. These include the production of local building materials, the erection of buildings (in line with Outer Island housing policy), the maintenance of small items of mechanical equipment, and the setting up of cinema businesses which can have a major educational function in family planning and agriculture. Many of the Small-Scale Manufacturing projects outlined for development in Chapter 4 lend themselves to Co-operative implementation.

5.15 Local Training requirements can be met through various In Service Vocational Training Courses, mentioned in Chapter 10, for which the Commissioner of Labour will have overall responsibility.

5.16 Investment in new permanent buildings for shops and stores has been running at a high level, some ₩60,000 in 1968 - financed partly by the Co-operatives and partly through the Agricultural and Industrial Loans Board. Investment in the Plan period will be principally in training, but also in buildings to improve storage, security and display. There needs to be additional investment in stocks of consumer goods such as bicycles, trailers, tools, etc. Expanded activities will also require investment funds. The overall level of investment in buildings and other activities will approach ₩200,000 in the Plan period which will be provided partly from the Movement's own resources, and partly through the Agricultural and Industrial Loans Board. ₩120,000 is allocated for this purpose. Funds for Primary Co-operative Society activities, except those specified in Chapter 2 and Chapter 6, are included in the above estimate.

Expenditure on Trading and Marketing 1970-1972

5.17 Table 5.17 summarises capital expenditure in the Plan period by the Trading organisation, on copra development, and for Primary/Retail Co-operative Development as detailed above. No estimate has been made for investment in private businesses.

Table 5.17 - Expenditure

₩ '000

No.	Project	1969	1970	1971	1972
	Carryover	-	-	-	-
	New				
5.6	Trading Warehouse	-	-	70.0	30.0
5.10	Copra Marketing Study	-	10.0	-	-
5.14	Co-operative Dept. Office	-	15.0	-	-
5.16	Retail/Primary Co-operative	-	40.0	40.0	40.0
	Total	-	65.0	110.0	70.0

/Chapter 6 .....

Chapter 6 - Transport

General

6.1 Development of transport services in the territory is critical to the implementation of this Plan. The Hooring Report proposed or supported major changes in the existing pattern of services, including the rationalisation of the Colony fleet, an alternative system of freight rates, the development of Overseas Colony shipping, the development of the Internal Air Service, and the Betio-Bairiki Causeway project.

6.2 For the rationalisation of sea transport services and other projects to be successfully implemented in the Plan period, a detailed and systematic analysis is required of all aspects of transport services in the territory. Data has to be collected and analysed, projects evaluated, and key staff obtained to implement the re-organisation necessary to establish an economic pattern of service for passengers and goods. Institutional arrangements for the re-organisation of transport are considered in Chapter 14.

6.3 The proposals and policy guidelines for transport are in some cases provisional. The first priority is for a comprehensive Transport Survey to begin in 1970, but this must be preceded by the collection of data. It is hoped that a report will be available in late 1970 to provide a basis for effective policy making.

Overseas and Inter-Island Transport

Sea Transport

Overseas Shipping

6.4 Overseas general freight services operated through Tarawa by the Columbus and Bank Lines have been reasonably regular, although the annual tonnages and tonnages per call handled are small and freight rates therefore high. Since 1968 the Wholesale Society vessel "Moanaraoi" has operated the Australian run on average every three months. This operation, judged independently of its effect on other services, is profitable, but it has taken traffic from regular overseas operators, and the frequency of their services has thus been irregular.

6.5 The pattern of overseas traffic, the effect of the Colony's own shipping link with Australia and the consequences for internal shipping, all require investigation to enable a long-term policy to be formulated for the provision of an economic pattern of overseas service, with or without Transport Division participation. These problems will be examined by the Transport Survey.

Inter-Island Shipping

6.6 All copra for export and all imports from overseas are moved between Tarawa and the Outer Islands of the Gilbert and Ellice groups by Colony ships, as also is inter-island passenger traffic. The entire cash economy depends upon the functioning of the fleet (though Ocean Island and the Line Islands have additional services from overseas companies), and the efficiency and cost of its operations affects the income of all residents.

6.7 The Hooring Report recognised that rationalisation of the Colony fleet was essential. From November 1969, the five major vessels will be under the operational management of the Wholesale Society, pending the formation of the Transport Division of the Development Authority. This alone will not achieve the

"considerable economies in maintenance and operation, and ensure the best overall use being made of the fleet". The Mooring Report's strictures on passenger services "infrequent and often irregular and leave a lot to be desired" are equally applicable to freight services within the territory.

6.8 These deficiencies arise from the lack of detailed knowledge of the pattern and levels of freight and passenger movements. It is impossible to arrange an economic pattern of working in relation to needs and costs, or to assess the type of equipment required without such data.

6.9 It has been recognised that, on account of the advantage given to firms trading only on Tarawa, the present freight rating system based on the pooling of transport costs between all islands (enabling a uniform price system for copra and trade goods) should be changed. High margins on the islands close to Tarawa have in the past subsidised prices on the Outer Islands. The existing freight rate per ton has, in fact, been less than the average cost, so that shipping services have not been covering costs for some time and have been subsidised by Government from general revenue. It is, however, doubtful whether, in a territory of only 50,000 people spread over two million square miles of sea, transport can ever be commercially viable.

6.10 High and hidden levels of cross-subsidisation between different classes of traffic, and between Inner and Outer Islands disguise the costs and benefits of services. A thorough study of traffic and operation costs is essential for the determination of an economic basis for rates. When these are known, a policy decision will be made as to the economically and socially justifiable levels of subsidy for the Outer Islands. It is essential that those subsidies be identifiable. A system of zonal rates related to costs of movement is economically preferable to a standard price system, with direct subsidies paid to the Transport Division by Government as necessary.

6.11 A detailed study of the existing and developing situation is required in all aspects as a basis for recommendations and decision on future routes, timetables, rates, vessel and equipment requirements, and management. The Regional Development Planning Unit is undertaking the preliminary collection and analysis of data, but it is likely that Technical Assistance will be required in mid-1970 to complete the Transport Survey.

6.12 It is not possible to estimate capital expenditure on inter-island shipping in the Plan period. There will be no requirement in 1970 whilst the Survey is in progress, but it is probable that changes in fleet composition with new acquisitions could lead to large expenditure in 1971 and 1972, which would, however, be offset by sales of existing vessels.

Port Development

6.13 Virtually all imports and exports for the Gilbert and Ellice Islands are shipped through Betio Port. This is at present operated by the Marine Department and by the Wholesale Society, but is to be transferred to a Ports Division of the Development Authority early in the Plan period. It is intended that the Port be a separate operational and financial undertaking with an economic scale of charges to users.

6.14 A Consultant's Report was prepared in 1967 which recommended major re-development involving expenditure now thought to be out of proportion to the prospective traffic flow through the Port. There has, however, been no agreed programme for development and a number of investments are now needed which can be undertaken in a phased programme over the Plan period. Proposed investments are outlined in Table 6.14.

Table 6.14 - Port Investment 1970-1972

No.	Project	$ '000 1970	1971	1972
1.	Transit Shed (incl. bonded store)	-	17.0	-
2.	Drainage and Lighting	-	-	38.0
3.	Water Storage	-	10.0	10.0
4.	Equipment - Crane	4.0	-	-
	Tow engines	-	-	10.0
	Total	4.0	27.0	58.0

It is anticipated that the crane requirement can be met from surplus at Christmas Island so that expenditure will be limited to rehabilitation ($4,000). Additional berthing will probably be required in 1973-1974 at an estimated cost of $42,000.

6.15 An overseas shipping line has under consideration a proposal for the private development of bunkering facilities for ocean-going vessels traversing the north of the Colony, and to be located in Butaritari in the Northern Gilberts. Close study of this proposal would be required as it may involve a Government investment of some $100,000 on navigational aids. Apart from possible economic benefits to the Colony this undertaking could have a serious effect on the pattern of vessels calling at Tarawa. An additional possibility of establishing Tarawa as Port of Registration is considered in Chapter 11 in connection with marine training.

Air Transport

6.16 The transport survey will study air transport, paying particular attention to the inter-action and co-ordination of Inter-Island sea and air transport.

International Air Services

6.17 A weekly return overseas air service operates from Fiji through Funafuti and Tarawa to Nauru. The development of a through service from Nauru to Australia is likely in 1970. The service to the Colony is adequate in terms of frequency, but at 15 cents seat/mile, fares are very high. This imposes a high cost on Government which directly or indirectly provides most of the passengers, and effectively inhibits any possibility of significant tourist development. This situation is to be investigated in 1970 with a view to seeking reduced rates and concession fares. The Colony has purchased a $10,000 shareholding in Fiji Airways which provides these services.

6.18 There is no through service to the North to the United States Trust Territory, where connections are available to the United States and South East Asia. It is in the interests of the Colony that this route should be developed, both from a tourist viewpoint and for the benefits competition would bring.

Internal Air Service

6.19 A twice-weekly internal air service commenced operations in July, 1969. It operates between three islands and Tarawa, and its provision has involved the construction of three new small airfields on Outer Islands. Base facilities, telecommunications, housing for crew and transport are also being provided by Government at subsidised rates. Annual operating costs are being underwritten to a maximum of $40,000 annually, and there are additional recurrent costs of airfields, telecommunications and other maintenance. The aircraft at present in use is fully depreciated, and no depreciation costs are being charged to the operation.

6.20 The total real capital outlay to the end of 1969 amounts to over $200,000, and a second stage development to a further eight islands has been under consideration. The airline operation is on a one-year contract so that before the end of 1970 a decision will have to be made regarding continuation. This is a long-term decision, because a new aircraft will eventually have to be bought for the service.

6.21 The benefits of the service to the Colony, economic, social, and administrative, need to be large to justify the substantial investment and recurrent expenditure involved. It is intended that the full costs and benefits of the operation be investigated in the early months of operation, in relation to alternative inter-island transport methods.

6.22 The second stage in the provision of airfields for the internal air service will await the findings of the Transports Survey before finalisation. Depending on the outcome, a capital outlay of $150,000 to build three more airfields might be anticipated towards the end of the Plan period.

6.23 Bonriki International Airfield at Tarawa requires a new terminal building and runway draining and reshaping. An earlier, expensive scheme, involving land reclamation, has been abandoned, and provision is included in the Plan for a simpler terminal to be built in 1971. $17,500 is allocated for work on the runway, to be undertaken in 1969-70.

6.24 The territory is likely to be faced with a demand for up-grading of the international airfields, Tarawa and Funafuti, in connection with regional air service development programmes. In the first or second year of the Plan, about $200,000 may be required for runway paving, lighting for night flying and fire equipment, whilst in mid-1970's there will be a requirement for runway development and improved navigation equipment to accommodate more sophisticated aircraft. This second stage of development would require an investment of a further $200,000. The economic circumstances of the territory and its air transport requirements totally preclude investment of this magnitude in airfield facilities. If the demands of international air traffic dictate provision of much improved facilities, it is considered that funds must be made available from new sources on a regional basis.

6.25 The payment of landing fees by international, private and air charter operators using the main airports will be introduced early in the Plan period.

Internal Island Transport

Outer Islands

6.26 The major problem of improving internal island transport relates to the relative emphasis to be placed on improved lagoon transport compared with road transport. It is evident that, at present prices, people express an increased preference for motorised land transport, trucks, buses and motor bicycles. The passenger preference is easy to understand on grounds of speed and comfort, but the costs of moving freight, principally copra, in this way are high.

Road Transport

6.27 Motorised road transport requires roads and causeways which are presently being developed on a self-help basis by Island Councils. Some difficulties must be expected in road and causeway maintenance, following increased use of heavy vehicles, and labour on self-help basis will not always be forthcoming. Poor maintenance causes frequent vehicle breakdown, and subsequent vehicle unavailability for long periods whilst spares are obtained and repairs effected. Economic and practical considerations make Central Government takeover of

local council roads undesirable. It is essential that the costs of road use and road development fall upon the users, and local resources with low economic costs will be mobilised to this end.

6.28 An increased toad tax will be introduced on all motorised vehicles in the Colony: Island Council, as well as Central Government, will thereby have increased funds for road maintenance and construction.

6.29 The use of bicycles must be encouraged as the road costs they incur are negligible. Arrangements are being made for bicycle/trailer/handcart manufacture and distribution to be placed on a systematic basis within the territory. Funds for this have been provided in the Agricultural programme. The trading organisation of the Development Authority will investigate alternative sources of supply for cheaper bicycles. Local assembly from knocked down kits will also be organised and it should be possible to offer bicycles for sale well below the current $50.00.

Lagoon Transport

6.30 Most islands have reef passages bisecting them. Some of these are too wide or too deep to permit the construction of causeways, with the result that road transportation of copra and goods to and from island centres is not always feasible to all areas of an island. The economics of island transport may favour the increased use of sail-powered lagoon transport, but from the practical point of view this is severely restricted by the tides. Canoes are suitable for the movement of the few bags of copra which is all the islander usually has to sell at one time, but there is no larger boat entirely suitable for lagoon work. The design and production in the Colony, for which there are facilities at Betio, of a boat capable of moving reasonable quantities of freight under sail in the lagoon would be desirable. An allocation of $5,000 is made for the design and building of experimental boats. If a suitable boat can be produced, it may be necessary to subsidise construction, and an additional $10,000 is allocated. As an interim and experimental measure a limited number of lagoon boats of an existing type are to be supplied to Local Co-operative Societies for copra movement. These will be powered from an experimental central engine pool to ensure maintenance. This latter project is included in the Agricultural Programme (Project 2.40)

6.31 The development of lagoon transport can be assisted in some islands by the development of jetties to facilitate loading/unloading operations, particularly at low tide. These can be built by hand labour with hand tools (Project 4.4.(3)), and the economic costs are virtually zero, but to encourage construction $20,000 is made available in the Plan period to finance the labour element in construction.

Mechanical Equipment

6.32 Unless an absolute fiscal disincentive is applied the use of powered equipment will continue to grow. Unreasonable disincentives are, however, inappropriate when such equipment is a powerful incentive to earning cash incomes. The combination of an increasing number of vehicles, motor bicycles, and boat engines on all islands and a lack of minor maintenance facilities and stocks of spares, leads to a high frequency and cost of breakdown. It is therefore intended that vehicle types and makes should be standardised so that adequate stocks of spare are held in the Colony, and the quicker wearing parts held on Outer Islands. A short training scheme for island mechanics, to be attached initially to the Retail Co-operatives, will be organised on Tarawa, where training facilities are available in basic engine maintenance and repair. A small allocation of funds ($10,000) is made for

this latter course which will aim at turning out fifteen mechanics annually in the Plan period.

Urban Tarawa

General

6.33 The centralisation of Government and commercial operations in Tarawa, the large resident population and the geography of the island, have already led to a disproportionate share of the Colony's resources being concentrated on the development and operation of transport infrastructure there. There is regular movement of a large number of Government and private road vehicles, including a commercial 'bus service, a ferry service and a major freight transshipment operation through the Colony's Port. A recent study for a "Capital Centre on Tarawa" has suggested, inter alia, extensive redevelopment and relocation of existing facilities, an expensive roads programme and the development of a major causeway project. It is doubtful whether the economic and social benefits following from these proposals can justify the cost; but until an overall plan, related to local needs, local resources and Colony development strategy has been prepared, transport planning cannot proceed on a strictly integrated basis. The main issues to be resolved are, however, clear.

Betio - Bairiki

6.34 The fundamental problem relates to the improvement and cost of communication and movement of freight and people between the island of Betio at the west end of the atoll and Bairiki, the Government centre, east across a tidal reef passage. When a satisfactory solution is found to this problem, transport developments eastwards from Bairiki through the educational centre of Bikenibeu to the airfield at Bonriki can be more readily resolved. The provision of substantially improved transport facilities between Betio and Bairiki at low user charges with present transport taxes would increase the traffic flow over the island's main road. This in turn would increase recurrent costs on maintenance.

6.35 Existing movement of freight and passengers, by barge and passenger ferry, is expensive and cumbersome and costs of operation are currently not fully recovered. Most of the freight traffic is off-loaded by lighter into the Port of Betio from ocean-going vessels moored offshore, then transshipped by barge to Bairiki wharf for onward movement. As many as five transshipment operations can be involved, so costs are high, and the risk of damage in handling is multiplied accordingly. The older passenger ferries are nearing the end of their economic life and the new fast ferry has not given the satisfactory service hoped for. The breakeven fare for the service would be almost four times the present charge of 10 cents. The existing transshipment operation and the ferry service will be taken over by the Ports Division of the Development Authority in 1969-1970.

6.36 The construction of a long causeway over the passage to overcome the problem of movement of freight and passengers by permitting through vehicle operation has been given serious consideration. Technical engineering investigations have shown that it can be constructed using expensive dredging equipment at a total cost of $500,000, spread over 2-3 years. Construction is dependent upon the possibility of a dredger being provided by the Foundation for the Peoples of the South Pacific. It is not yet known whether the funds will be forthcoming.

6.37 An alternative to the causeway exists in the form of a combined vehicle and passenger ferry. The costs and economics of this have been investigated in sufficient detail to demonstrate the advantages of this type of operation over the present systems. A service will be introduced in late 1970 using an existing modified

landing craft, temporarily withdrawn from service between Tarawa and neighbouring islands, pending the local construction of an alternative craft. A ferry ramp is required at Betio, and the total estimated capital investment is $130,000, which includes an additional landing craft (with standby facilities), housing and terminal facilities. With passenger and freight traffic at current levels and rates, sub-economic in the case of passengers, the freight rate can be reduced from the present $7.80 per ton to $6.10; at a passenger fare twice the present rate, still half the present economic rate, the freight cost could be reduced to $1.70 per ton. Costs have taken full account of all overhead, depreciation and recurrent charges.

6.38 The entire investment will be made in 1970 and substantial savings will be effected through lower costs of freight movements. It is proposed that the ferry service would eventually operate under the Ports Division of the Development Authority.

6.39 The vehicular ferry might operate only temporarily pending the construction of the causeway, and if funds for the latter are not forthcoming, it will be the final link.

Roads

6.40 Increases in road vehicle movements, particularly following the provision of a vehicle ferry between Betio and Bairiki, will lead to an increase in road maintenance costs. Tax changes increasing the cost of vehicle operation are to be considered during the Plan period. Further road development during the period will not be undertaken on Tarawa.

Government Transport

Road Transport

6.41 Proposals for rationalisation and economy in use of the Government vehicle fleet are being examined and will be implemented as soon as possible during the Plan period. Measures proposed include the transfer of most vehicles to a transport pool to obtain economies of operation; the charging of full economic costs of transport to departmental users, and standardisation of vehicle types for both Government and statutory organisations.

6.42 When it appears that economies can be made by reducing the number of Government vehicles, personal loans for vehicle purchase will be encouraged. Commuted mileage allowances are under consideration.

6.43 Capital investment in additional vehicles by Government is estimated at $56,500 in 1970-1972; the estimate for 1971-1972 will require revision in line with the outcome of Pool operations. There is no capital provision under sector heads; fleet replacement, estimated at $22,000 in 1970, will be met from the recurrent budget.

Lagoon Transport

6.44 The Plan provides for the acquisition of additional boats by the Co-operatives (Project 2.40) and by the Police (Project 13.14). The Medical Department, the District Administration and the Transport Company also use powered lagoon boats. Estimated investment in 1970-1972 is some $22,000 for 10 power boats and three dumb boats, and it is essential to standardise on a general purpose basic hull and engine type, whether for passenger or cargo movements, with or without a dumb boat. The Marine Department is determining a suitable standard type at as estimated unit cost of $2,000, and the overall provision includes funds for a spare engine pool.

Commercial

6.45 There is a developing and profitable bus service operating east of Bairiki, at present owned and operated by Government. The service is likely to be transferred to a Local Authority, when this is created, or possibly to a private local operator.

Expenditure on Transport 1970-1972

6.46 There is need for investigational work on major aspects of transport and until the Transport Survey has been reported, requirements cannot be ascertained for some major projects. Capital cost estimates relate to expenditure by Government and the Transport Division, the latter from 1970 onwards, but do not include investment by private owners.

Table 6.48 - Table of Expenditure

$ '000

No.	Project	1969	1970	1971	1972
Carryover					
6.23	Bonriki Airfield Improvement	2.5	15.0	-	-
New					
6.3	Transport Survey	-	T	-	-
6.12	Ships	-	T	T	T
6.14	Port Development	-	4.0	27.0	58.0
6.15	Betaritari Bunkering Port	-	T	T	T
6.23	Terminal Bonriki	-	-	30.0	-
6.29	Bicycles	-	T	T	T
6.30	Boat development	-	5.0	5.0	5.0
6.31(1)	Jetties O.I.	-	6.0	7.0	7.0
6.27	Roads Outer Islands	-	7.0	8.0	9.0
6.32	Mechanic Training	-	2.0	4.0	4.0
6.37	Vehicular Ferry	-	130.0	-	-
6.40	Tarawa Roads	-	-	-	-
6.41	Government Transport	-	12.0	20.0	20.0
6.43	Government Light Vehicles	-	1.5	1.5	1.5
	Total	2.5	182.5	102.5	104.5

/Chapter 7 .....

CHAPTER 7 - Public Utilities

General

7.1 Investment in water and electricity is mostly in South Tarawa to meet the demands of urban consumers and Government. A high proportion of investment in telecommunications is for air services. The facilities contribute little that is directly productive but further investment totalling $345,000 is unavoidable in the Plan period.

7.2 Substantial investment in the improvement of urban water supplies was recommended in 1967 by Consultants at a total cost of some $700,000 with further investment in sewage disposal of $350,000. These recommendations, though technically sound, are beyond the financial resources of the Colony and expenditure in the Plan period of $180,000 is designed to meet essential requirements. Recent investment in electricity generation and distribution on the basis of Consultants' advice has brought considerable development in the urban centres of Tarawa. Expenditure in the Plan period will total $49,000 and the tariff will be reviewed in 1970 to determine whether full costs can reasonably be recovered from consumers.

7.3 Investment in Posts and Telecommunications is substantial at $146,000 in the Plan period. The expenditure on telecommunications will be necessary because equipment salvaged from Christmas Island presently in use is reaching the end of its operating life.

Water Supplies

7.4 Water supplies on South Tarawa vary considerably from periods of excess with rainwater running to waste, to periods when the quantity for extraction from wells is limited, salinity increases rapidly, rainwater storage tanks become depleted, and the date of replenishment is unknown and probably distant. A very short time (six weeks in 1968) separates these extremes when the rains cease, because of the porosity of the soils and the limited land area available for catchment. Investment totalling $700,000 has been recommended to overcome the problem, but this is beyond the financial resources of the Colony.

Rainwater

7.5 Catchment and storage of large quantities of water for use during droughts is only possible using large and expensive concrete reservoirs. Reserve storage at Betio is dangerously inadequate and the building of an additional reservoir in 1970-1972 is necessary at a cost of $50,000.

7.6 Consideration has in the past been given to consumer located catchments of rainwater in lieu of distributed well water. Further examination, however, will be made of this question, since greater use of rainwater would mean that urban dwellers would have ample supplies during wet weather, thus providing a respite from the present strict rationing of well water. Systems of catchment and storage so far proposed require considerable capital expenditure in order to install tanks large enough to conserve supplies during drought periods.

Well Water

7.7 In mid-1969 some 160,000 gallons of well water was distributed weekly by road tankers to urban consumers in senior staff housing. Local inhabitants and junior staff obtain their supplies directly from small wells. Consumption of water is growing at the rate of about 10% per annum, which is about the same rate as population growth on South Tarawa. In normal

circumstances wells at Bairiki and Bikenibeu are adequate to meet current demand at these locations (but see para. 7.10 below), but a further well is required at Betio in 1970-1971 at a cost of $20,000 to meet rising demand.

7.8 The Medical Department is seriously concerned about the incidence of diarrhoeal disease on Tarawa. The World Health Organisation experts are currently investigating the problem. Water supplies drawn from sources in inhabited areas appear to be a major factor in the spread of disease, and chlorination of water is likely to be recommended. Funds are allocated within project 7.7 for chlorination at Betio.

7.9 The degree of bacterial pollution of existing wells at Bairiki and Bikenibeu is not known accurately, but it is anticipated that it would be necessary to chlorinate beyond the limits of potability. Subsequent dechlorination would be necessary, requiring substantial additional investment in chemical dosing or in storage tanks to allow dissipation of the excess chlorine. Alternative water supplies are essential.

7.10 The use of wells within the Bairiki and Bikenibeu urban areas will be discontinued and the established water reserve areas at rural Antebuka and Bonriki will supply the two centres. Antebuka reserve development requires the investment of $50,000 in the Plan period, and if the World Health Organisation experts advise chlorination, a further $15,000 will be required. It is unlikely to be worthwhile to improve existing wells at Betio after 1971, and if population growth outstrips existing supplies, including new supplies from projects 7.5 and 7.7, it will be necessary to pipe supplies from the Antebuka reserve to Betio. It is not anticipated that this will be necessary in the Plan period. At Bikenibeu the situation is likely to become critical towards the end of the Plan period and $20,000 has been included to investigate and develop the Temaiku and Bonriki reserves which will supply Bikenibeu.

7.11 Investigations are being carried out into the capacity of the two water reserve areas, the capacity of existing wells and the amount of water consumption. $5,000 is allocated for further investigation in 1970.

Sewage Disposal

7.12 Government Offices and housing, in Classes I to IV, have septic tanks, but other sewage disposal depends solely on oversea latrines. A piped sewage disposal system with pumping station, seawater flushing, and sea outflows, would cost an estimated $350,000 which is beyond the resources of the territory.

7.13 During 1968 and 1969 there has been some development in the construction of aqua-privies for use on septic tanks in low grade Government housing. This will be continued. The cost of this, which is small, is being met as part of construction costs in the case of new buildings. Provision of $10,000 is included for improving facilities for existing housing.

7.14 Table 7.14 shows capital expenditure in the Plan period, including $10,000 for pump replacement.

Table 7.14 - Expenditure on Water Supplies and Sewage $'000

No.	Project	1969	1970	1971	1972
7.5	Betio Emergency Storage	-	20.0	20.0	10.0
7.7	Betio New well & Chlorintn Plant	-	15.0	5.0	-
7.10(1)	Antebuka Reserve Development	-	25.0	15.0	10.0
7.10(2)	Bikenibeu Chlorintn Plant	-	-	15.0	-
7.11	Antebuka/Bonriki Developmt	-	5.0	-	20.0
7.14	Pump Replacements	-	10.0	-	-
7.13	Aqua-privies	-	-	10.0	-
	Total	-	75.0	65.0	40.0

Electricity Supplies

7.15 Electricity is produced by the Public Works Department at three generating stations at Betio and Bikenibeu. In 1967, Consultants recommended a new high voltage system with a single power station at Betio serving South Tarawa. This was accepted by Government. A three-stage programme was prepared, Stage I to Teaoraereke, Stage II to Bikenibeu and Stage III to Bonriki. Capital investment for the scheme is high, $380,000, but centralised generation should substantially reduce unit costs.

Production Costs

7.16 Stage II of the scheme up to Bikenibeu will be completed early in 1970, when production is estimated at 2.4 million k.w.h. generated, 1.8 million k.w.h. delivered at a cost of 6.41 cents and 10 cents respectively.

Table 7.16 - Production Costs

	$ '000
	1970
Staff	37.9
Fuel and Oil	50.0
Spares and Supplies	4.0
Insurance	3.7
Interest	31.2
Depreciation	20.1
Overheads	4.9
Total	151.8

Consumption and Revenue

7.17 Estimated consumption of electricity in 1969 is 1,380,000 units; 31% in Bikenibeu, 21% in Bairiki and 48% in Betio. An estimated 35.5% of consumption is by Government Offices, 32.5% by staff and labour quarters, 15% by the Wholesale Society, and 17% by private consumers. The tariff is 8 cents per unit for the first 50 units, 6 cents per unit for the next 200 units, and 5 cents a unit thereafter. The average revenue per unit for the first six months of 1969 was 5.95 cents per unit, ranging from almost 8 cents a unit on supplies to low-grade quarters to approximately 5.6 cents a unit on supplies to Government Offices. Revenue in 1969 is estimated at $82,000, which will only meet recurrent costs of fuel and labour.

7.18 Estimated consumption in 1970 is 1,810,160 units, which is a 13% increase over 1969, and is mostly due to the installation of electrical equipment by Government departments whose share of total consumption will rise from 32.5% to an estimated 50.3%. Total revenue in 1970 based on the present tariff is estimated at $102,393, or 67% of production costs.

Price

7.19 The present tariff, although recently increased, results in the price of electricity being subsidised by about 30%. The real cost of electricity used by Government Departments, the Wholesale Society, staff housing and private consumers is not covered and the effect of the hidden subsidy is to increase consumption. Full costs are of course met by Government as supplier, even if they are not all identified, and there is thus a direct subsidy by Government to the Wholesale Society and the Private sector which will total about $50,000 in 1970. In 1970, non-Government consumption is expected to rise by about 10%. There is no electricity supply in Outer Islands excepting Funafuti.

7.20 The aim will be to put the production of electricity

on to a commercial basis, with revenue meeting expenditure so that the level of Government subsidisation will steadily be phased out. It is estimated that on present costs a tariff increase of 50% to 8.5 cents per unit will be necessary to achieve this. Thereafter the price will be kept under review.

7.21 The Colony Government intends to include full electricity costs in all projects, and current costs will be charged to Departments, as well as to the Wholesale Society and private consumers.

7.22 When the tariff is reviewed, consideration will be given to allowing large consumers a variable diurnal tariff to encourage off-peak consumption, improving the present load factor of 52%.

7.23 Capital expenditure on power supplies and distribution in the Plan period is given in Table 7.23. Investment in Stage III of the new generating and distribution system (the extension to Bonriki), costing some $50,000, is related to future airport development, discussed in Chapter 6, but provision for this, if needed, would come from regional funds. There are two small carryover items totalling $10,000 and small allocations for minor improvements on Tarawa and Outer Islands.

Table 7.23 - Expenditure on Electricity

No.	Project	1969	1970	1971	1972
			$'000		
	Carryover				
7.23(1)	Electrical Workshop	-	2.0	-	-
7.23(2)	Electrical Distribution	-	8.0	-	-
	New				
7.15(1)	Minor Improvements, Tarawa	-	8.0	8.0	8.0
7.15(2)	Minor Improvements, Funafuti, Line Islands and Ocean Island	-	5.0	5.0	5.0
	Total	-	23.0	13.0	13.0

Posts and Telecommunications

Posts and Telephones

7.24 The organisation of the accounting and postal services of the department needs review, and application has been made for a technical assistance consultant for this purpose. In addition, new posts will be created to strengthen the executive/accounting section and to collect statistics. It is essential that basic postal and telecommunications data should be collected on a systematic basis.

7.25 Philatelic sales of Colony stamps at present gross $30,000 annually. It is considered that these sales could be expanded to a target of $150,000 within three to four years, and it is intended that the Philatelic Bureau should be strengthened. This will require initially the addition of a Volunteer or an expatriate wife, since the operation is complex. A local officer will be trained overseas to assume management of the bureau as soon as possible.

7.26 It is probable that an Australian Bank will establish a branch in Tarawa in the near future. In this event, it will take over the present Government Savings Bank and no action will be needed by the Colony Administration to expand the staff of the Savings Bank.

7.27 In the past two years a telephone network has been developed on South Tarawa. It is adequate to requirements but needs minor improvements, for which $5,500 is allocated. Further extension

to Bonriki will depend upon airfield development. The manual system will be retained during the Plan period. Connections will not be offered to private households outside the three main urban areas, since the cost of these is estimated at $2,000 each. Public call boxes will be established in the three main urban areas in 1971-1972. Existing subscribers, including Government, will be subject to charges, to be introduced as soon as possible, which will aim at eventually covering all costs.

7.28 The public telegraph network is adequate and the appointment of an accountant to the Posts and Telecommunications Department will increase the efficiency of administration.

7.29 Table 7.30 gives capital expenditure in the Plan period.

7.30 Table 7.30 - Expenditure on Posts and Telephones

$ '000

No.	Project	1969	1970	1971	1972
New					
7.28	Bikenibeu Telephone Exchange	-	2.0	0.5	-
7.27	Public Call Boxes	-	-	1.5	1.5
	Total	-	2.0	2.0	1.5

Telecommunications

7.31 The territory is faced with substantial investment in telecommunication facilities. Internal and external lines of communication are long, and equipment is becoming increasingly complex and expensive. Investment in the last decade has been relatively low because much of the existing equipment was salvaged from Christmas Island. This, however, is reaching the end of its operational life. Departmental responsibilities are expanding, particularly for shipping and aeronautical services, and demands on technical staff have reached crisis proportions. This has in turn led to difficulties in the implementation of In-Service training.

7.32 There may be opportunities to obtain spare parts for existing equipment from redundant stores following closure of the U.K. base at Singapore, and this is being followed up. The possibility of seconding technical staff from H.M. Forces will also be investigated.

7.33 Capital investment is required in internal, international, maritime and aeronautical facilities in the Plan period. Duplication of facilities will be avoided and external pressures for excessively sophisticated equipment, in terms of Colony needs, resisted. It is intended that equipment will be such that it can readily be maintained by local technicians.

7.34 There is need for standardisation of all electronic equipment in the territory in use by Marine, Medical and other Departments, and by Development Authority Divisions. The Department of Posts and Telecommunications will, in future, be consulted prior to any orders being placed overseas.

7.35 Postal and telecommunications buildings on Betio are inadequate and will be improved and expanded. There is a carryover of $6,000 into 1970, and an additional $7,000 is allocated for 1970. There are other small carryover items for 1970 - $4,000 for Outer Island Radio Stations, and $3,000 for a new workshop at Funafuti.

7.36 Capital investment in telecommunications in the Plan period will be $141,000.

Table 7.36 - Expenditure on Telecommunications

No.	Project	1969	1970	1971	1972
			$ '000		
Carryover					
7.35(1)	Betio Building	6.0	-	-	-
7.35(2)	Outer Is.Radio Stations	-	4.0	-	-
New					
7.35(3)	Workshop Funafuti	-	3.0	-	-
7.35(4)	Betio Bui lding	-	7.0	-	-
7.36(1)	Inter-Island Equipment	-	13.0	13.2	6.0
7.36(2)	Shipping Equipment	-	-	9.4	9.4
7.36(3)	Aeronautical Equipment	-	26.8	33.4	7.4
7.36(4)	Miscellaneous Equipment	-	2.7	3.7	1.7
	Total	6.0	56.5	59.7	24.5

Summary

7.37 Table 7.37 summarises capital expenditure on Public Utilities in 1970-1972.

Table 7.37 - Expenditure

No.	Project	1969	1970	1971	1972
			$ '000		
7.14	Water Supplies & Sewage	-	75.0	65.0	40.0
7.23	Electricity Supplies	-	23.0	13.0	13.0
7.30	Posts & Telephones	-	2.0	2.0	1.5
7.36	Telecommunications	6.0	56.5	59.7	24.5
	Total	6.0	156.5	139.7	79.0

CHAPTER 8 - Housing and Construction

General

8.1 A large proportion of total investment in the Colony in recent years has been channelled into the development of economic and social infrastructure on Tarawa. This has involved a high level of construction and civil engineering activity by the Public Works Department and the Engineering Division of the Wholesale Society. With the completion of a small housing programme in 1969 and early 1970, further expansion of investment in housing will give way to investment in productive areas. Combined construction and civil engineering activity will total $1,354,000 in the Plan period including carryover projects valued at $198,000 in 1970 (on the construction proportion only). Total Plan period expenditure is estimated at $2,393,500.

8.2 A rundown in the construction labour force is inevitable. The rationalisation of construction activities within the Development Authority is being planned for progressive implementation during 1970. It will be necessary for Government to reconsider its policy with regard to staff housing, particularly unestablished staff, and certain sections of the Employment Ordinance may need to be repealed.

8.3 The two major requirements for this sector during the Plan period are the development and use of local building materials, to redress the tendency towards increased dependence upon imports and to create local employment, and the assessment of the full costs of construction and civil engineering content of projects. Public Works Department costs have hitherto understated full costs because many overheads are borne on the Public Works recurrent budget. This has led to under-estimation of capital expenditure, and of the capital cost of individual projects. A thorough analysis of costs is a necessity so that estimates mostly based on Public Works Department costs can be revised and reconsidered in 1970-1971.

Housing

8.4 There is very little privately owned housing on South Tarawa, apart from traditional housing owned by villagers whose home island is Tarawa. On the Outer Islands (except for a few Government quarters) all housing is privately owned and traditional. Most of the non-traditional housing stock on Tarawa is owned by Government and the Wholesale Society, and is occupied at sub-economic rents, or in some instances rent free, by their employees.

8.5 There is a substantial unemployed population on South Tarawa which has little prospect of obtaining employment. Its presence exacerbates housing and social problems by causing overcrowding and leads to further problems of water upply and sanitation. This problem of the drift from rural areas to the "bright lights" of the towns is found the world over, and nowhere, short of unacceptable compulsion, has a satisfactory solution been found. Some measure of control is possible under public health and housing legislation. When such measures are introduced expenditure will be required for staff to police them and for subsidising repatriation. A realistic estimate cannot be included in the Plan at this stage.

8.6 It is unfortunate that the very limited land area available for building on South Tarawa effectively precludes any prospect of encouraging private home ownership. It is inevitable that housing will continue to be tied largely to employment.

Government Established Staff

8.7 Table 8.7 details housing stocks at present available

and estimates the additional demand in the Plan period for established staff. Houses are allocated mainly on a basis of entitlement by salary, though size of family and other factors are taken into consideration. Classes II-V houses are therefore largely expatriate-occupied, and Classes VI-VIII mainly allocated to local officers. The entitlement system will be reviewed in line with proposals outlined at 8.13 for a system of economic rents. The net shortfall between supply and demand in the Plan period, after allowing for new posts, is 88 houses (+138 -226). The 1969-1970 housing programme allows for the construction of 32 housing units. There will then be an estimated shortage of 56 houses. Since, however, in local circumstances recruitment difficulties dictate that some posts are always unfilled, it is not proposed at this stage to include any provision for new housing in the Plan. Certain minor modifications to recently constructed houses, for example the construction of verandahs, would reduce dissatisfaction at low-cost, and $10,000 is allocated for this in the Plan period. The Localisation Programme will ensure that there will be no overall increases in expatriate employment above the 1970 level, so that future housing development can be geared to local requirements. There is a carryover item in 1970 of $10,000.

Table 8.7 - Housing for Established Staff 1969-1972

Class	II	III	IV	V	VI	VII
8.(1) Bairiki						
Supply 1969	2	19	13	10	26	80
Demand 1969-1972	3	28	5	11	54	69
Balance	-1	-9	+8	-1	-28	+11
8.(2) Betio						
Supply 1969	-	24	22	19	35	93
Demand 1969-1972	-	36	11	19	56	85
Balance	-	-12	+11	-	-21	+8
8.(3) Bikenibeu						
Supply 1969	2	21	26	11	18	65
Demand 1969-1972	-	40	13	8	42	45
Balance	+2	-19	+13	+3	-24	+20
8(4) Total						
Supply 1969	4	64	51	40	79	238
Demand 1969-1972	3	104	29	38	152	199
Balance	+1	-40	+22	+2	-73	+39

8.(5) Total 1969-1972

Surplus Classes II, IV, V, VII	+138
Deficit Classes III, VI	-226
Deficit	- 88

Unestablished Staff

8.8 There are approximately 154 Grade VIII houses on Tarawa and about 500 unestablished workers are entitled to housing under present legislation. The estimated cost of housing all such workers would be $200,000 if local materials were used, and $500,000 if the buildings were in permanent materials. This is beyond the Colony's resources in view of the urgent need to invest productively. The statutory requirement to house these workers will therefore require repeal. The diversion of Government expenditure away from South Tarawa to Outer Island development in the Plan period will reduce employment on Tarawa, particularly in the construction sector, so that pressure on housing will decrease.

Wholesale Society Housing

8.9 Wholesale Society Housing is owned and operated broadly on the same lines as Government housing. It is for permanent staff and allocated on an entitlement system. Junior staff pay no rent and the quality of senior staff housing is substantially higher than the quality of comparable Government quarters. The housing stock is in balance with demand in the Plan period and no new investment will be necessary by the Development Authority. The Development Authority will acquire ownership of the housing stock which will continue to operate on a pool basis to its Divisions and the Trading organisation. It will be operated under rental and allocation arrangements similar to those for Government after revision. Table 8.9 summarises the Development Authroity's position in the Plan period.

Table 8.9 - Housing, Development Authority, 1970-1972

	No. Housing Units - Class				
	III	IV	VI	VII	VIII
Bairiki	-	-	-	2	-
Betio	13	17	9	77	40
Bikenibeu	-	1	1	2	-
Under Construction	-	1	2	21	-
Total	13	19	12	102	40

Outer Island Housing

8.10 Outer Island housing is generally privately owned and built in traditional style. Island communities have, however, provided housing for Government teachers, agriculturalists, administrators, policemen and others stationed permanently or temporarily on Outer Islands. The extent of Government operations on Outer Islands has been limited in the past, but the Colony has already assumed responsibility for medical building, and for assisting with certain schools built in permanent imported materials. The demand for this kind of assistance is increasing as the position develops where officers seek housing comparable to that available on Tarawa. Government is already facing large increases in demnd for permanent Outer Island housing, and increased expenditure is inevitable unless deliberate policies are adopted to develop the use of local materials and charge the real cost of housing to users.

House Rentals

8.11 Civil Servants and Wholesale Society employees have hitherto been housed at low rental or rent-free. At the present time as much as 35% of the real cost of employing staff is attributed to the imputed value of housing received. This is costly to Government, and limits the ability of employees to determine how their income shall be allocated between housing and other requirements. It has certainly increased demand for higher quality, more expensive housing, and the increased use of imported materials.

8.12 The Pincombe Review briefly considered the introduction of economic rents, but in view of the high capital cost of housing and the consequent high level of rents required, recommended that a modified system of economic rental be investigated.

8.13 The capital cost of Government's present housing stock for Classes II-VII is $2,800,000, for which rent received totals $40,000 per annum. This is slightly more than half the annual maintenance costs which are themselves costed on a Public Works Department basis. Table 8.13 relates the capital cost of different classes of house to an economic rental and to the average salary

of the householder. It shows that an economic rental would absorb some 13-30% of current salary if the householder held his appropriate housing entitlement. Economic rentals at this level are clearly not a practical possibility. Consideration will, however, be given to introducing a modified system of rental based on 50% of the real economic rental. This would encourage a long-term move by employees towards lower cost housing. The increased rentals would have to be balanced by salary increments, particularly at the lower levels, and rentals would be pitched so that within the present entitlement they do not exceed 15-20% of revised salary. The introduction of economic rentals would bring no short-run financial benefits to the Colony, since increased amounts received by way of rent would be balanced by increased salary payments. It would, however, effect a gradual reduction in demand for bigger and better housing as employees switch their expenditure towards other goods.

Table 8.13 - House Rentals

	Class					
	II	III	IV	V	VI	VII
(1) Capital cost $1,000	16.7	13.5	9.3	5.3	4.7	2.9
(2) Present Rentals $	336	264	168	72	36	24
(3) Rent % Cost	2.0	2.0	1.8	1.4	0.7	0.8
(4) Full Economic Rental @ 9% Cost $	1,500	1,210	840	480	420	265
(5) Average Net Salary in Entitlement Grade $	7,400	6,250	5,500	1,100	760	560
(6) Full Economic Rental % of (5)	13.6	13.1	10.9	27.1	33.6	30.1
* (7) Recommended Rental $	750	605	420	240	210	132
(8) Revised Salary $	7,814	6,591	5,752	1,278	934	668
(9) Recommended Rental % of Revised Salary	9.6	9.1	7.3	18.8	22.5	19.8

* At 50% of economic rents all Classes I - VII

Other Buildings

8.14 The requirements for buildings (including housing) and their phasing during the Plan period are summarised in Table 8.20 and related to construction capacity, but the funds themselves are allocated to the sector for which the building is required. The Riddell Report which proposed a major re-development programme for South Tarawa, involving office and works relocation and reconstruction, is beyond the financial resources of the Colony. Both Government and Development Authority construction will accordingly consist of relatively minor modifications to existing offices and institutions, limited additional training facilities and new warehouse families for the Trading organisation and Port. These minor modifications are linked to a systematic appraisal in 1970 of the existing use of office space by Departments. Departmental re-distribution between existing centres is complicated by the existing distribution of the housing stock. This requires no addition during the Plan period so that major Departmental movement is not envisaged. This constraint does not apply to Wholesale Society re-organisation. However, the number of persons required to move geographically to effect re-organisation is relatively small.

Building Standards

8.15 Little systematic investigation has so far been done into the feasibility of using local materials in housing and general construction. Recently, indeed, there has been a move towards increased use of imported materials on grounds of greater permanence, and hence decreased maintenance costs. Roofing is a special case because the water catchment factor is of prime importance.

8.16 Detailed experimentation into the use of local building materials, particularly timber and lime, will be undertaken

during the Plan period. Whenever practicable a definite policy will be adopted whereby the only imported materials used in building construction on Outer Islands will be roofing and water catchment materials. Projects under the Small Scale Manufactures Scheme, in Chapter 4, are related to this requirement. It is intended that, when supplies allow, local timber and lime will also be used on Tarawa except where definite and expensive disadvantages are apparent.

8.17 Frame warehousing can be constructed in the Colony for certain projects, and investigation will be undertaken to establish whether this is more or less economic than the present practice of importing prefabricated buildings from overseas.

8.18 It is intended to minimise mechanisation of tasks presently undertaken by hand labour; for example, excavation, despite the apparent financial saving. The costs to the economy of using local labour are certainly considerably less than those of using imported equipment.

Construction Industry

8.19 The Construction sector in the Colony will be undergoing extensive re-organisation during the Plan period as Public Works Department and Wholesale Society activities are regrouped as a Development Authority Division. Institutional aspects of this are mentioned in Chapter 14. The detailed programme for the regrouping is still under consideration and in 1970 the Public Works Department and Engineering Division of the Development Authority are likely to continue to operate as separate entities although with increasing co-ordination. The projects scheduled in Table 8.20 will be undertaken on a programme agreed between the Public Works Department and the Engineering Division. Formal training within the construction sector is limited to carpenters and mechanics on an apprenticeship basis within the P.W.D.

Construction Capacity

8.20 The construction and civil engineering programme in Table 8.20 are higher in 1970 than in subsequent years because of a substantial carryover into the first 3-4 months of 1970 of projects from 1969. Re-phasing is being examined; the major problem relates to delivery of items of equipment where delays of several months are common and unpredictable. A systematic ordering procedure has been developed for basic commodities, cement, steel, wood, but work can be easily delayed by specialised deliveries being delayed. This is unavoidable in the geographical circumstances of the Colony and the number of project starts must be high to ensure that a reasonable level of capacity working is achieved. Priority will be given to the completion of carry-over projects prior to 31st March, 1970, so that the minimum amount possible of the new 1970-1971 aid allocation is required for completion of old schemes.

/Table 8.20 .....

Table 8.20 - Construction & Civil Engineering Phasing

'000

No.	Project	1969	1970	1971	1972
Carryover					
Construction					
4.9	Mechanical Workshop	44.0	10.0	-	-
7.23(1)	Electrical Workshop	-	2.0	-	-
7.35(1)	P.& T. Office, Betio	6.0	-	-	-
7.35(2)	Outer Is. Radio Stations	-	4.0	-	-
8.16	Roofing Material Miscellaneous	-	10.0	-	-
8.7(1)	Housing, Tarawa	100.0	59.0	-	-
9.3(1)	Broadcasting Studio	117.0	25.0	-	-
9.4	Printing & Informatn Office	-	12.0	-	-
10.39	K.G.V. Improvements	-	5.0	-	-
12.13	Outer Is. Medical Buildings	-	7.0	-	-
	Total	267.0	134.0	-	-
Civil Engineering					
2.51	Temaiku Bight Reclamation	2.5	23.0	-	-
6.23(1)	Airfield Reshaping Bonriki	2.5	15.0	-	-
7.23(2)	Electrical Distribution	-	8.0	-	-
	Total	5.0	46.0	-	-
New Projects					
Construction					
5.6	Trading Organisation Warehouse	-	-	70.0	30.0
5.14	Co-operative Dept. Office	-	15.0	-	-
5.17	Co-operative Stores Outer Is.	-	40.0	40.0	40.0
6.14(1)	Port Transit Shed	-	-	17.0	-
7.13	Aqua-Privies	-	-	10.0	-
7.35(3)	P.& T. Workshop Funafuti	-	3.0	-	-
7.35(4)	P.& T. Office Betio	-	7.0	-	-
8.	Minor Housing Improvements	-	5.0	5.0	-
8.23	P.W.D. Funafuti	-	8.0	-	-
10.18	Primary Schools Outer Islands	-	20.0	20.0	20.0
10.39(2)	K.G.V./E.B.S. Expansion	-	6.8	37.1	29.9
10.50	Vocational Training Facilities	-	T	T	T
10.54	English Teaching Unit	-	T	T	T
11.3	Marine Training Shore Base	-	30.0	-	-
12.12	Family Planning Programme Office	-	20.0	-	-
13.4(1)	Police Stations & Housing	-	18.0	38.0	38.0
13.8	Govt. Buildings Improvements	-	15.0	5.0	-
13.12	Rest Houses	-	6.0	6.0	6.0
13.15	Remand Home	-	-	3.0	-
	Total	-	193.8	251.1	163.9
Civil Engineering					
6.14(2)	Port Drainage & Lighting	-	-	-	38.0
6.14(3)	Port Water Storage	-	-	10.0	10.0
6.23(2)	Air Terminal Bonriki	-	-	30.0	-
6.27	Roads Outer Islands	-	7.0	8.0	9.0
6.31	Jetties Outer Islands	-	6.0	7.0	7.0
6.37	Ferry Terminals	-	50.0	-	-
7.5	Emergency Water Storage Betio	-	20.0	20.0	10.0
7.10(1)	Water Reserve Antebuka	-	25.0	15.0	10.0
7.10(2)	Water Reserve Bonriki	-	-	-	20.0
	Total	-	108.0	90.0	104.0

Construction Costs

8.21 Estimates of construction and civil engineering costs, unless otherwise stated, are Public Works Department costs. These exclude depreciation of plant and equipment, and engineering and administrative

overheads. The disadvantages of this procedure are obvious, and the recurrent budget of the Public Works Department carries a large element of expenditure which is attributable to capital projects.

8.22 The transfer of construction activities to the Engineering Division of the Development Authority in 1970-1971 and the possibility that in the interim certain projects will be undertaken by the Division may prove troublesome, because the Engineering Division is already operating on an estimated full cost basis. Individual Plan projects undertaken by it may therefore require an additional allocation of funds. This will be determined when detailed phasing and responsibility is agreed between the Public Works Department and the Engineering Division. Capital costs will be further increased by the profit element charged by the Engineering Division. In the long run the proper charging of costs will be beneficial, but in the short run it is likely not merely to distort the allocation of funds but also to increase total financial costs because it is unlikely that Public Works recurrent expenditure will be reduced pro rata to the transfer of activities and projects to Engineering Division. The Accounting facilities necessary to make any reasonable assessment of the probable position in 1970 are not available. The above considerations have, however, been taken into account in allocating expenditure and the position will be reviewed in 1970.

Expenditure on Housing and Construction 1970-1972

8.23 Table 8.23 summarises expenditure on housing in the Plan period and on Public Works Department buildings. Other projects to be carried out by the construction and civil engineering industry, and other investment by the Public Works Department - for example, mechanical engineering and transport - are included in the relevant sector Chapters.

Table 8.23 - Expenditure

No.	Project	$ '000 1969	1970	1971	1972
Carryover					
8.16	Roofing Miscellaneous	-	10.0	-	-
8.7	Housing Tarawa	100.0	59.0	-	-
New Projects					
8.7(3)	Minor Housing Improvements	-	5.0	5.0	-
8.23	P.W.D. Funafuti	-	8.0	-	-
	Total	100.0	82.0	5.0	-

/Chapter 9 .....

CHAPTER 9 - Information and Broadcasting

General

9.1 Information and Broadcasting services in the territory have been substantially expanded during the current decade. Present development policy is based on two reports, one by the Engineer-in-Charge of the Fiji Broadcasting Corporation and the other by the Fiji Government Public Relations Officer. The reports proposed that the Information and Broadcasting services be combined into a single Department.

9.2 A three-stage programme for Broadcasting was outlined. Stage I involved the installation of a 10 KW MF transmitter on Tarawa, with studios and receivers. Stage II was for the conversion of the existing 2 KW HF transmitter to MF and its transfer to Funafuti for use as a Relay Station. Stage III proposed the installation of a second 10 KW on Tamana or Beru and the extension of broadcasting hours. The Reports commented on the inadequacy of Information facilities, including office accommodation and printing equipment.

Development

9.3 Stage I of the recommended programme is scheduled for completion in 1969-1970. Implementation of Stages II and III will await the testing of Stage I to determine the effective range of the installation. Provided this is up to expectations, further investment in relay transmitters is of low priority. Broadcasting development, even at the Stage I level, involves high recurrent costs and further expansion will take full account of these. Estimated carryover of studio development into the Plan period is $42,000.

9.4 There is a need for simple printing facilities at Tarawa and for other items of information office equipment, and it is intended that these should be provided in 1970 at a cost of $30,000.

9.5 The staff of the Department consists of a Broadcasting and Information Officer, a Broadcasting Engineer, both seconded from the B.B.C., an Assistant Information Officer, an Assistant Broadcasting Officer, four Announcers, two Editors, three Reporters and limited clerical assistance. Only limited In Service training is available and there is a need for overseas courses for staff from both sections. An overseas training programme has therefore been prepared to satisfy immediate requirements in 1970-1971. The relatively high levels of investment in equipment will bring little benefit without trained staff.

9.6 The widely scattered nature of the islands of the Colony, together with the urgent need for economic progress, mean that the Broadcasting Service has an important role to play in the dissemination of development-directed information. People, however, will not listen to programmes which do not interest them. A great deal of skill and inter-departmental co-operation will therefore be necessary to put across in an entertaining manner information on such vital matters as family planning and agricultural development.

9.7 A Senior Health Education Officer has been recruited to plan and implement a full family planning campaign. This will require close co-operation with the Broadcasting Department. Extensive use of visual aids will be made and it is hoped that cinema operators can be persuaded to show relevant films during public shows.

9.8 The major expansion of agricultural investment, particularly through coconut subsidy schemes, will be implemented by the Agricultural Department, but this will be backed by wide dispersion of information on the programme through broadcasts, posters and pamphlets.

9.9 Considerable effort in the Plan period will be concentrated on improving the functioning of Local Government. Explanatory broadcasts and printed information on the purpose and plans of Island Councils, island by island, will greatly assist this effort. The Local Government Training Officer will be instrumental in explaining the functions of Councils and Island Executive Officers.

9.10 A lack of command of English is a major hindrance to development throughout the Colony. Improvements in the educational system from primary to adult levels will depend to a substantial degree on the use of radio for courses on spoken English. The Information and Broadcasting Department also has an important role in outlining training opportunities and job vacancies in association with the Commissioner of Labour.

9.11 The dissemination of news on current affairs within and outside the territory will continue as an important part of the Department's activities. It is hoped that, as the Broadcasting section gains experience, the range of features concerning local events and policies will improve and stimulate more local interest and awareness of the problems facing the Colony.

9.12 The literacy rate in the local languages is high in the Colony by less developed country standards. It is much lower in English. There is a general demand for the production of printed matter on a wide variety of subjects for use in schools, to explain agricultural programmes, and for general administrative purposes. Printing facilities in the Information Section will be geared principally to producing textbooks, pamphlets and posters in association with other Departments.

Expenditure on Information and Broadcasting 1970-1972

9.13 Table 9.13 outlines capital expenditure during the Plan period. The preparation of material and the costs of production for Departmental programmes are included in the relevant sectors.

Table 9.13 - Expenditure

No.	Project	$'000 1969	1970	1971	1972
Carryover					
9.3(1)	Broadcasting Studio, Bairiki	117.0	25.0	-	-
9.4	Printing & Information Office	-	30.0	-	-
New Projects					
9.3(2)	HF Transmitter	-	-	T	-
	Total	117.0	55.0	T	-

/CHAPTER 10 .....

CHAPTER 10 - Education and Manpower

General

10.1 Education Policy will aim at meeting the urgent need for a small, highly trained labour force, professional, technical and skilled, and at providing basic primary education for all.

10.2 Opportunities for wage employment are limited in the territory and finance for all social services, including education, is in short supply. It is essential that the resources that are available are spent on equipping citizens in a manner appropriate to that in which they will spend their lives. Education must relate to the local environment of the majority of children who will spend their lives on their home islands. The most urgent requirement in the Plan period is rapid improvement in post-primary, vocational, secondary, academic and tertiary education essential to qualify selected local people to meet existing shortages and to make rapid localisation possible. The system must be selective but with opportunity open to all and with adequate provision for those not selected for post-primary education, to enable them to contribute to their own development and that of the community.

10.3 The education system has been reviewed by an Education Planner and a "Report on Educational Development in the G.E.I.C." has recently been received. Development Plan proposals are consistent with this Report in all fields of post-primary education. The recommendations on Primary education (and consequently on Teacher Training) are being considered, and Primary Education Policy will be formulated in early 1970.

Education and Manpower Requirements

10.4 Preliminary information from a draft Manpower Survey is that there are 4,200 persons in wage employment in the territory, 4,800 including Ocean Island. Of these, 84% are male, comprising 31% of the available males of working age in the 15-64 age group, 13,000. Colony men working overseas number an additional 1,000, whilst seamen on overseas ships number 150.

10.5 There are 24 expatriates working in the Colony, 306 including Ocean Island. Of the 224, 64 are clergy and of the remaining 160, 130 have educational qualifications of Diploma or Degree standard and work in a wide range of professions and varieties of employment.

10.6 The indigenous labour force numbers 3989; 4516 including Ocean Island. Only 74 persons have Diploma or Degree qualifications, of whom 12 are clergy. Two-thirds of the remainder are in the medical or teaching professions. Other than clergy, there are only two local persons with University Degrees.

10.7 A major barrier to the development of the territory is the shortage of highly-trained local people. The deficiency is most apparent at tertiary level, but clearly reflects inadequacies at secondary and primary level. The consequent retention and expansion of the expatriate labour force is extremely costly in real and financial terms.

10.8 Employment requiring primary or only secondary education is localised, but 70% of persons in this category have received minimal primary and no post-primary education, whilst a further 20% have received only one or two years of a very simple secondary education. The overall quality of education received means that virtually all the labour force in semi-skilled occupations or better is in urgent need of training or retraining.

10.9 Employment outside the "Wage Employment" category comprises the estimated 9,000 male persons engaged in the subsistence economy

producing and selling copra and meeting their own requirements for food, housing and transport. They have received primary education of very variable quality, but whatever the quality it has done little to assist them to become better farmers, fishermen, house-builders, or to participate actively in the improvement of life in the Outer Islands. This sector of the community has a most important part to play in the development of the potential of the territory. Most people will be employed here and their educational needs must be met.

Primary Education

10.10 The past policy of "consolidation" aimed to regroup children into larger schools, and to upgrade teaching and physical facilities. Its goal was a common standard universal primary education for the 6-12 years age group, with a further two years "secondary general" education. The programme was financed almost entirely by Government, with a limited direct contribution by the community. It was abandoned in 1968 on geographical, communal and financial grounds.

10.11 The present primary "system" comprises four types of school - Government, Island Council, Mission and Village. Some are entirely Government financed, some partly, some not at all; some have trained teachers, with and without Government assistance, some have no trained teachers. The geographical distribution of the better schools is uneven, creating communal problems, and the recent withdrawal of the main Protestant Mission has created religious difficulties. Table 10.12 attempts to categorise primary schools. Class A schools are Government or Government Aided, with a high proportion of qualified teachers; Class B are unaided Roman Catholic Mission schools, many with trained teachers; Class C are Village and Mission Schools with unqualified teachers, unaided, and of poor quality.

10.12 About 5,900 children attend the Class A schools, 40% of an estimated primary enrolment of 13,900 in 1968. The Education Planner has reported that Class A schools "compare favourably with those in other countries within my experience". Additionally he has stated that many of the Roman Catholic Mission Schools in Class B are of a standard equal to those recognised by Government for aid. Taking Class A and B together, more than 50% of primary school children are in schools that "compare favourably". Table 10.12 summarises numbers in primary education.

Table 10.12 - Numbers in Primary Education 1968

School Age Group - 6 - 15			13,500
6 - 12			9,750
Class A			
	Government	720	
	Island Council	910	
	R.C. Mission	1,930	5,560
Class B			
	R.C. Mission		2,570
Class C			
	Village Schools		5,770
	Total Enrolment		13,900

10.13 The numbers entering the school age group are rising rapidly. A summary projection is given in Table 10.13. By 1978 there will be 18,000 children between 6-15 years.

Table 10.13 - Projected Population of School Age

'000 Children

Age Group	1968	1970	1971	1972	1978
6 - 12	9.8	10.5	10.9	11.2	13.2
6 - 15	13.5	14.0	14.5	14.8	17.9

10.14 Development of primary education on existing lines involving the further expansion of Government-aided education would raise direct recurrent expenditure from an estimated $140,000 in 1969 to around $400,000 per annum by 1978, with possibly a further $250,000 for buildings, plus administrative overheads. It is accepted that this is beyond the capacity of the Colony.

10.15 There are two demands for primary education. The first is to educate the relatively small numbers of children who, in Colony circumstances, will be required to proceed to secondary and tertiary education to meet the need for trained manpower. The numbers required are discussed in a subsequent section of this Chapter, but this need can be very adequately met by the existing primary school system with a little inexpensive modification. The second demand is for a primary education which will be "complete in itself and provide a foundation upon which the youth are able to adjust to change and participate intelligently in social and economic development".

10.16 This latter demand is the most difficult to satisfy in all developing countries, because implicit in it is the demand for equal primary education for all and equality of opportunity for secondary or further education. It is an extremely expensive goal in the circumstances of any developing country, and a goal whose achievement many less developed countries, having once espoused, are tacitly postponing. The Colony has made progress in improving the quality of primary education, in particular in making it more relevant to outer island life. It has not yet established an acceptable rate at which the benefits of improved primary education can be spread to a rapidly rising child population in face of rising costs and the prospective loss of phosphate income.

10.17 Social and political demands for equality of opportunity, and the lowering of the school entry age conflict with what is practicable. Constant pressure on Government to divert more and more resources into education diverts funds from more profitable channels of investment, which might at a later stage enable a consistent educational expansion policy to be pursued. It is imperative that the Colony does not embark on a new primary system the costs of which threaten to escalate uncontrollably. If it does so, the policy may eventually come to a standstill, for lack of funds.

10.18 The Report of the Education Planner proposes a primary education programme which would substantially reduce the per capita costs of a universal primary education system, with common standards comparable with those current in the better schools, phased over a period of years. Its implementation would create a system far in advance of that in most other less developed countries. The feasibility of the proposed programme and its phasing is under consideration. Meantime $60,000 is allocated for new or improved classrooms during the Plan period.

10.19 The Report clearly states that the universal primary education goal is a socio-political one, and that if it is to become a reality a very substantial direct contribution will be required from the local community, in money and in work. Government could not meet the full costs of such a programme from its general tax receipts; and Government contributions to such a programme would be conditional upon local community contributions. The

latter would involve financial contributions towards teachers' salaries, school equipment, and labour contributions to provide materials for and construct school classrooms and teacher housing. The estimated direct recurrent financial contribution from Government to achieve a system of universal primary education by 1978 would approach $300,000 annually by 1978. This excludes the cost of teacher training, some $60,000 annually, and the cost of administrative and other overhead facilities. The local community would have to find some $90,000 in cash additional to the above, plus the cost of buildings.

10.20 The programme would provide universal primary education with opportunity open to all, and a primary curriculum related to the local environment. On reasonably optimistic assumptions the financial cost of the primary programme would be well over $450,000 by 1978, some $360,000 to Government which will have to be met from taxation, and the balance by local communities. A very substantial proportion of the Colony's total resources would be diverted into primary education, far more than can be justified on economic grounds.

10.21 In terms of the decade's economic development problems, the need is to provide sufficient numbers with an adequate education to enable them to proceed to further secondary education to meet the shortage of skilled labour. This need not conflict with the longer term socio-political goal of universal primary education. If the longer term goal of universal primary education is embarked upon it must be in full realisation of its total cost to the community in the middle and late 1970's.

Primary Teacher Training

10.22 The Teachers' College at Bikenibeu produces 30 trained teachers per annum who enter the Local Government Service or join the Catholic school system in roughly equal numbers.

10.23 The output of the College, the length of course and teacher employment have been determined by the old Consolidation Policy. Until a new Primary Education Policy is adopted no major changes in Teacher Training can be considered, but whatever the future Policy, there are certain measures that can be taken immediately. An added emphasis to in-service training is one such measure.

10.24 One great disability of Outer Island schools is their isolation, and an extra lecturer post is to be created at the Teachers' College. This will allow staff to tour, to conduct in-service training on Outer Islands and to keep the College in closer touch with the realities of the Outer Island school situation.

10.25 Multi-group classes are likely to be a feature of schools for a long time to come. Technical assistance, probably from New Zealand, will be sought for a visiting specialist to conduct a special course on group teaching and school organisation in one- and two-teacher schools.

10.26 Revision of the Primary Curriculum, presently in progress at the Teachers' College with the assistance of a specialist in environmental studies, requires to be speeded up. More important, it must be supported by a steady output of locally oriented teaching material based on the new syllabuses under preparation. It is intended to appoint for two years a Curriculum Development Officer who will be responsible primarily for the production of this material. It is hoped to obtain technical assistance for the post but a small capital and recurrent outlay will be necessary for accommodation, equipment, materials, and clerical assistance.

10.27 $10,000 is allocated for 1970 and 1971 for minor improvements to buildings and facilities.

Secondary Education

10.28 Secondary Education to Form V level is a recent development in the territory in a single Government Secondary School. Despite substantial expenditure in recent years on buildings, equipment and staff, the quantity and quality of output is extremely low. The Skinner Report recommended that output should be doubled and a limited expansion programme began in 1969. This was an interim measure pending the advice of an Education Planner, and in the absence of any estimate of manpower requirements. The projected output from this structure is:

Table 10.28 - Government Secondary Output

Nos.

	1970			1971			1972		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
In School			300			320			330
Completing Form III	39	20	59	47	23	70	45	25	70
In Form IV	33	17	50	n.a.	n.a.	60	n.a.	n.a.	60
In Form V	33	17	50	n.a.	n.a.	50	n.a.	n.a.	60

10.29 Perhaps eleven out of 60 Form V leavers will obtain qualifications adequate to enter further education overseas. This falls a long way short of the territory's needs.

10.30 Table 10.28 gives only a partial picture of Form III output because Mission School Secondary Forms will produce an estimated 104 children in 1972.

10.31 Combined output at Form III will be 174 children, of whom 75 will continue for further education, 50 to full Form V. Ninety-nine children will leave Form III to enter employment immediately.

10.32 Table 10.32 estimates combined Secondary output in the Colony in 1969 and 1972.

Table 10.32 - Secondary School Output

Nos.

	1969	1972
Output at Form III	163	174
Intake to Form IV T.T.C. etc.	75	75
Output to Work at Form III	88	99
Output at Form V	31	60
Intake into Tertiary Education	11	11
Output to Work at Form V	20	39

10.33 A preliminary estimate of demand in the next 10-15 years for different levels of secondary and tertiary educational output has been made in Table 10.33 from the draft Manpower Study. It takes into account wastage from existing employment, vacancies, expansion in employment opportunities and a rate of localisation similar to that adopted by Government.

Table 10.33 - Annual Secondary and Tertiary Requirements

Nos.

	Annual Replacement	Localisation	Expansion	Total Demand
Degree	7	5	-	12
3 Year Diploma	13	3	-	16
'A' Level	9	-	1	10
Form V	25	3	7	35
Form III	49	-	10	59

10.34 The estimate assumes that expatriate wastage is met through localisation and that certain posts held by graduate expatriates would not require similarly qualified replacements on localisation; for example, administrative officers in the Civil Service. The requirement for University Graduates is spread across a wide range of professions. The Diploma requirement is principally in the field of agriculture, medicine, marine and engineering. The "A" level equivalent requirement is mostly for technician trainees, whilst Form V demand is largely for teachers, civil servants and medical workers. Form III demand is primarily for clerks and semi-skilled or skilled tradesmen. The estimates exclude provision for clergy. Certain requirements are incorrectly designated and need regrading to take account of modified intake requirements.

10.35 Table 10.35 sets supply of persons with educational qualifications of Form III and above against the demand for them in the next decade.

Table 10.35 - Secondary and Tertiary Education
Supply and Demand for Leavers.

	Supply	Demand	Surplus + Shortfall -
Degree	2	12	- 10
3-Year Diploma	1	16	- 15
'A' Level	-	10	- 10
Form V to Tertiary	11	38	- 27
Form V to Work	49	35	+ 14
Form III to Work	99	59	+ 40

Shortages occur at Form V and above in numbers but also in quality. Severe current shortfalls at Degree, Diploma and "A" level must be met locally in the short run through implementation of the Skinner Report proposals on intensive short term training and upgrading of local staff. Expatriates will, however, be required for professional employment. In the longer run shortfalls will be met by improving the number and quality of secondary school output to enable an expansion of numbers entering tertiary education.

10.36 Of planned Form V output of 60, with present quality of output, only 11 will be suitable for tertiary education. The balance of 49 Form V leavers are unqualified for tertiary education, but there are job opportunities for only 35. Job opportunities for Form V leavers are in many cases geared to school leavers of a higher standard than those available, so that whilst supply and demand will balance in 1972, improvement is required in quality. Demand for intake and offtake at tertiary level over the next decade is 38 persons annually. In 1972, only 11 Form V leavers will qualify and there is an annual deficit of 27.

10.37 To meet the urgent need for improved quality and the above output requirements, and following the Development Planner's review, it is intended to expand the Government Secondary School to a 3-stream, 6-year course, with an enrolment of 495 built up of three classes of 30 pupils each in the first three forms, and three classes of 25 in the top three forms.

10.38 Following this expansion, the revised supply demand position will become as in Table 10.38.

Table 10.38 - Revised Supply and Demand 1973-1974

	Supply	Demand	Surplus + Shortfall -
Degree	2	12	- 10
3-Year Diploma	1	16	- 15
'A' Level	-	10	- 10
Form V into Tertiary	38	38	-
Form V to Work	37	35	+ 2
Form III to Work	94	59	+ 35

10.39 The expansion of the Government Secondary School will involve new facilities additional to current modifications to take numbers in school from the present 320 to 495 - 175 additional places. Estimated capital costs additional to carryover improvements in 1970 are as follows:

Table 10.39 - Secondary School Expansion

$ '000

	1970	1971	1972	1973
Dormitories etc.	.3	17.6	16.9	18.0
Classrooms etc.	6.5	19.5	13.0	52.0
English Teaching	3.0	-	-	-
Additional Equipment	22.0	10.0	10.0	10.0
Total	31.8	47.1	39.9	80.0

The expansion of the school will increase recurrent expenditure on staff and maintenance. Table 10.39 estimates new levels of expenditure. It includes the existing commitment for the implementation of the Skinner Report recommendations. The expansion of the numbers in school will effect a considerable reduction in the net cost per pupil - from $295.00 per annum in 1969 to $240.00 per annum in 1973, both on a 40-week-year basis. The reduction is chiefly attributable to economies in staff utilisation.

Table 10.40 - Recurrent Expenditure

$ '000

	1969	1970	1971	1972	1973
Total Expenditure	101.0	116.5	132.0	144.0	157.0
Less					
Fees	19.5	23.0	28.0	31.0	35.6
Net Total	81.5	93.5	104.0	113.0	121.4

10.41 This structure will meet the Colony's trained manpower needs at the upper levels. A number of related measures are necessary, however, to ensure the maximum return from the increased investment and to deal with specific problems which contribute to the present under-achievement of secondary pupils.

Staffing

10.42 Leave and contract systems applicable in the Civil Service are not appropriate where continuity of service is essential, and recruitment and holidays must match the school year. A system of institutional leave is to be introduced in 1970 with long-term contracts and inducements essential to encourage teachers to return for a second tour, and to give them comparable gains in seniority to those obtainable in their countries of normal residence.

10.43 Curriculum and Examinations. The expanded structure will remove present problems arising from the attempt to fit an adequate number of course options into a school too small to implement them economically and efficiently. The need for curriculum renewal towards regional requirements will be met by the University of the South Pacific's United Nations Development Programme project for curriculum development and secondary teacher training. A regionally-oriented final examination at Form V level is expected to emerge from present negotiations between the University of the South Pacific and the New Zealand Education authorities to modify the New Zealand School Certificate Examination to suit Pacific territories. It is intended that the Colony will conform to and participate in these regional developments, and will complement them by increased recruitment from New Zealand.

10.44 Selection. It is of the greatest importance t at the high costs of secondary education are expended on those most likely to profit from them. The present policy of re-selecting for entry to Form IV by a common examination on a Colony-wide basis is to continue, but the present procedure of combining in the Colony Junior Certificate Examination a selection test for entry to Form IV and an attainment test for entry into employment is not considered to be wholly satisfactory, and is being reviewed. Places falling vacant for any reason in the lower forms of the Government Secondary School will be filled by the best candidates offering from Mission Junior Secondary Schools.

10.45 The proposed secondary school structure will match Form V output to demand annually at 70 - 75, but there will be a surplus of 55 over the estimated demand for Form III leavers. There is, therefore, no case in manpower terms for expanding the Mission Junior Secondary output at Form III. The schools, however, provide a service to the community and they will be assisted to improve its quality.

Adult and Social Education

10.46 The Adult and Social Education section of the Education Department comprises a Social Education Officer (post vacant), an English Language Teaching Specialist, and a Women's Interest Officer with a staff of one Assistant Women's Interests Officer and four Community field workers.

10.47 Present policy concentrates the activities of the section in the development of Informal Education through Women's Clubs and the teaching of English to groups of clerks, nurses, policemen, etc. Youth clubs and children's play-groups, both under local volunteer direction, are given moral support and some organisational assistance.

10.48 The success of the Development Plan as a whole will largely depend on the communication of new ideas and on the co-ordination and dissemination of information from all sections of government and society. An excellent service of this nature for women is already being purveyed in different media - broadcasting, newsletters, village level demonstrations and discussions, and by the Women's Interests Officer and her local staff. This organisation is to remain intact within the Education Department. A development information officer or "Informal Education Officer" post is to be created, adequately supported by local staff of sufficient capacity to ensure that, as is the case with the Women's Clubs organisation, the "message" is put over in attractively familiar tones. The Officer will be responsible for the propaganda and information service backing up the Development Plan. It has always been intended that, when technical facilities became adequate, a Schools Broadcasting Officer post would be created, and the first appointee to this new post will liaise closely with the Education Department to initiate research and pilot projects in this field.

10.49 The English Teaching Specialist will join a vocational English Teaching unit, situated on Betio.

Vocational Training

10.50 The Skinner Report referred to the piece-meal approach to training and localisation, and duplication of effort. Within the territory there are substantial nurse, seaman and teacher training programmes, and a small Clerical Training School in the Education Department. All other training schemes are department- or Wholesale Society-based. Various schemes listed in Table 10.50 are under development and co-ordination is necessary to eliminate Departmental overlapping. The annual training throughout for local employment numbers over 200 and there is already competition to obtain best ontrants. This is extremely wasteful and pays no attention to Development priorities. Token provision is included for the schemes outlined in Table 10.50 pending further evaluation of requirements by the Commissioner of Labour.

Table 10.50 - Colony Vocational Training 1970-1972

Project	Department	Course	Duration	Expatriate Training Officers	No.
2.10	Agriculture	Agricultural Assistants	2 years	2	20
4.12	Wholesale Society Engineering Division	Fitters &c	3 years	1	10
5.14	Co-operatives	Managers & Staff - Outer Island Co-operatives	No fixed duration	-	20
7.32	Posts & Tele-communications	Wireless & Teleprinter Operators	1 year	1	10
8.19	P.W.D.	Electricians	3 years	1	10
8.19	P.W.D.	Carpenters	3 years	1	10
10.23	Education	Primary Teachers	1, 2 & 3 years	6	60
10.46	Education	Remedial English In-Service		1	All Courses
11.2	Marine	Seamen	6 months to 1 year	13	300
12.15	Medical	Nursing	3 years	-	11
13.6	Secretariat	Senior In-Service Training	No fixed duration	-	6
13.6		Clerical Training	6 months	2	24
13.6	Accountant-General	Accountants	No fixed duration	-	6
13.11	District Administration	Island Exec: Officers	6 months	1	12
		Local Govt. Officials	1-2 months	-	12
		L.G. Clerks	6 months	-	12
		Recruits	6 months	-	18
		Refresher	5 weeks	-	40
		Promotion	4 weeks	-	20

10.51 Co-ordination of courses and selection and allocation of individuals ensuring maximum utilisation of facilities and staff is essential where numbers on individual courses are likely to remain small. Decisions have also to be taken on vocational courses overseas, essential for higher grade staff, but the costs and wastage involved for lower grades have to be weighed against the high per capita costs of training small numbers of persons locally. The demands made on or opportunities offered available skilled manpower of the Marine Training School must be carefully regulated in relation to persons required to work within the territory.

10.52 Common service facilities for training in English at all levels are an immediate necessity in the Colony for Government and other organisations. Adult and vocational remedial English needs, 100-150 annually, must be met in addition to the requirements of the Marine Training School - 300 annually.

10.53 There is obvious merit in centralising and co-ordinating local training in one administrative unit. Tarawa, however, has no easily accessible geographical centre: experience of over-organising on slender administrative and technical resources and poor communications has not been happy. Nevertheless, local training must meet the needs of two fairly distinct categories of personnel - those involved in social and rural development on the one hand and in administrative and technical/commercial activities on the other. With some overlapping these are already centred in Bikenibeu in the first case and Betio in the second.

10.54 It is proposed to maintain and develop this two-centre arrangement. The Clerical Training School will be moved to Betio. A Vocational English Teaching Unit comprising two expatriate teachers and two local counterpart teachers will also be established there. This will involve investment in equipment and buildings in 1970, for which token provision has been made pending specialist advice. Responsibility for the necessary co-ordination of effort and resources, and the selection and allocation of manpower will rest with the Commissioner of Labour. Training Officers in the technical and administrative field will be attached to a single unit for administrative purposes.

10.55 Consultations between Departments most concerned (Education, Medical, Agriculture, Information and Co-operatives) are being held to devise a similar scheme of co-operation in the training of personnel in the social development field - teachers, nurses, extension workers, etc. - to provide shared instruction and possibly facilities in the common core subjects of communication and community studies, perhaps centred in the Teachers' College.

10.56 Most training scheme costs, capital and recurrent, are charged to Departments. In 1970 all will be grouped together in Government Estimates to provide a comprehensive picture of investment in training within and outside the territory.

Training Overseas

10.57 To relate overseas training to the Colony's needs, the Scholarships Board will award scholarships in keeping with manpower priorities established by the Civil Service Advisory Board. These must be in line with Plan priorities. Full use will be made of the courses available at the University of the South Pacific. Financial provision for overseas scholarships will be removed from the Education Vote to the Training Vote. It is essential to calculate the possible size of expenditure on scholarships over the next decade. This may be, as the Education Planner points out, formidable.

Education and Manpower Planning

10.58 For the foreseeable future the demand for persons with secondary education or better will be in excess of the numbers of people available. It is essential to avoid competition between different organisations in the territory, all of which are related to Government, and the various bodies concerned with recruiting will formally channel demands through the Commissioner of Labour. A positive set of priorities will be established for different categories of school leaver to enter occupations or undertake further training related to the Colony's long term needs.

Other Education Requirements

10.59 Books, magazines and newspapers are virtually unobtainable at any of the Colony's retail outlets, and library facilities are very limited. Books geared to the average level of competence in English are certainly unobtainable. The expansion of library services and the marketing of books and papers on a commercial, possibly a subsidised basis, is essential if hard-won literacy is to be retained. An allocation of £30,000 is provided for the Plan period.

Education Administration

10.60 Weakness at the administrative level has been long apparent and often commented on. The rapid expansion of educational facilities and the heightened developmental activity requiring co-ordination and planning have not been reflected in a comparable strengthening of the headquarters establishment. Measures are now being taken to ensure that a Headquarters staff will be available to cope with proposed developments. There will be a Chief Education Officer and Deputy, two Administrative Education Officer posts, one of which will be localised immediately, and a Senior Executive Officer (local). It is essential to proposed development in education that senior staff are enabled to concentrate on policy and development planning. Delegation of greater responsibility to institutions is proposed and in 1970 the Headmaster of the Secondary School presently responsible for the collection of Revenue (school fees) will assume control of all the School's recurrent expenditure except Personal Emoluments. An Executive Officer will be added to the school staff to deal with finance and general administration.

Schools Inspectorate

10.61 The present establishment consists of one Inspector and two Assistant Education Officers. The upgrading of primary education, the isolation of Outer Island schools, and the need for improvement in the quality of teaching generally require that this establishment be expanded by two more Assistant Education Officer posts. The four Assistant Education Officers to be called "School Organisers" will be given additional training, probably overseas, to enable them to specialise in selected areas of the curriculum. To free the School Organisers for more professional work, some of their routine duties concerned with the receipt and distribution of school supplies will be assumed by a storeman.

Expenditure 1970-1972

10.62 Table 10.62 summarises capital expenditure on education in the Plan period.

Table 10.62 - Capital Expenditure on Education during Plan Period

No.	Project	₦'000 1970	1971	1972	1973 Carryover
Carryover					
10.39	K.G.V. Improvements	5.0	-	-	-
New					
10.27	T.T.C. Minor Improvements	5.0	5.0	-	-
10.18	Primary Classrooms	20.0	20.0	20.0	-
10.39(1)	K.G.V. Expansion	6.8	37.1	29.9	70.0
10.39(2)	K.G.V. English Teaching	3.0	-	-	-
10.39(3)	K.G.V. Additional Equipment	22.0	10.0	10.0	-
10.50	Vocational Training	T	T	T	-
10.54	English Teaching Unit	T	T	T	-
10.59	Library Development	10.0	10.0	10.0	-
10.46	Miscellaneous (includes Curriculum Development: Adult & Social; Facilities, equipment, materials, etc.)	15.0	5.0	5.0	-
	Total	86.8	87.1	74.9	70.0

/CHAPTER 11 .....

CHAPTER 11 - Marine Training School

General

11.1 The Marine Training Scheme was started in 1967 under the general direction of the Marine Department. The "Teraka" was purchased, and with a staff of nine the scheme was originally intended to train 90 cadets per annum. Rising demand for trainees and the need to effect some economies of scale has led to substantial expansion of the scheme, and 150 cadets per annum are now under training. Total expenditure has been just over $1 million in the period 1967 to 1969, of which 25% was in recoverable capital assets. The scheme is financed from British Aid funds, by United Nations agencies (UNDP and IMCO), by the Columbus Line and the China Navigation Company. By mid-1969, 120 cadets had been trained and were employed overseas.

Development 1970-1972

11.2 The market for trainees is good and much of it has yet to be explored. Economic study to assess the value of the scheme to the territory has shown that some alterations will need to be made before a positive return can be reasonably assured. It is hoped to be able to cut recurrent costs of training by increasing output to 300 trainees annually, through staff re-organisation and more effective use of the ship. This, however, will need the concurrence of the shipping companies concerned. Each trainee will be charged a fee and a significant financial contact will be encouraged between the trainee and the Colony. Phased implementation of these proposals is under way.

11.3 A moderate staff increase is necessary to increase input to 300 in 1970-1971. The course will be shortened, with all but six weeks ashore, and the ship intensively used as a cruising sea training vessel. Capital expenditure will be restricted to the expansion of the shore establishment to accommodate increased numbers ($30,000) and to housing for additional staff, if this is required. From 1970, trainees will repay the costs of uniforms and rations during their first two-year overseas contract. With school output at 280 annually (allowing for a wastage rate of twenty per annum), income from this will increase from $8,400 in 1970 to $67,200 in 1971 and thereafter to be offset directly against recurrent costs. Total recurrent costs, including staff, will be $128,500 per annum, net of the above receipts, when expansion is fully realised.

Staffing

11.4 The expansion requires the staff establishment to be increased from 13 to 19, of whom seven will be local employees. It is anticipated that the Captain Superintendent and the Chief Engineer will continue to be supplied under United Nations Development Programme Aid, and the Chief Officer will continue to be seconded from companies associated with the scheme. The only other Officer presently required, the ship's Master, will be seconded from the shipping Division of the Development Authority. Early in 1972, two further officers will be seconded by the shipping companies. Other expatriate instructors will be recruited if possible from ex-Royal Navy and Merchant Navy Petty Officers. Priority will be given to the recruitment of the latter personnel.

English Teaching

11.5 English instruction is at present an essential part of the preliminary training. The expansion of output means that recruits will have a limited command of English - the higher quality educational output being reserved for local employment. The staff expansion will include two local English teachers. English teaching requirements have been investigated by an English Teaching Specialist who has

recommended that for the present English language training should be retained within the training system. The additional costs of specialised English teaching will be more than offset by the reduced marine training required. The first stage of the English programme requires only $1,500 for equipment, and existing buildings will be used. Possible further development will be reviewed in 1970.

Employment Bureau

11.6 By 1970, the administrative establishment of the School will be unable, nor should it be expected, to handle the volume of work arising from recruiting seamen, and finding employment and re-employment, pensions, vacations, remittances, etc. for them. A small bureau will be established in the Marine Department, staffed by a specialist officer. Technical assistance has been sought to advise on the establishment of this bureau.

Trainees.

11.7 At present, trainees are encouraged to remit half their basic salary to the Colony during their first contract, and to date all have done so. Basic salaries run from $95.00 to $110.00 monthly, depending on the employing Company, with additional earnings from overtime. It is obviously in the interests of the Colony that trainees be placed in the most remunerative employment. There is always a risk that remittances will eventually cease, so that the higher the seaman's initial net income, the higher the immediate remittance he can afford to send home.

11.8 The costs of the scheme are such that "Teraka" graduates need to remit an average of at least $750 p.a. during their working life for economic success to be assured. Rising costs and limited knowledge of the future likely level of remittance dictate that trainees need a net disposable basic wage at not less than $900 per annum soon after the commencement of employment. Under a recently negotiated contract with a German Consortium this is attained in the second year. There are two important requirements in relation to future trainee placement: first, long-term contracts will, whenever possible, be negotiated with overseas shipping companies with a guaranteed basic wage not below the above level. Secondly, companies offering wages below the specified level will only be supplied with crews if more remunerative employment cannot be found for them. There may, however, be temporary exceptions to this in the case of companies who have invested in the establishment of the scheme.

11.10 The expansion of the scheme in line with the above proposals will yield the Colony a net annual addition to income of approximately $350,000 - $450,000 by 1973-1974.

The Ship

11.11 The value of the "Teraka" to the scheme has received close financial and economic consideration. A smaller, specially designed ship would have clear cost advantages, but it is not practical or economic to replace the existing vessel for at least three years. The possibility of an entirely shore-based operation will be kept under review but there are clear advantages in retaining a ship for the time being.

11.12 - Expenditure on Marine Training 1970-1972

Table 11.12 - Expenditure

		$'000		
No.	Project	1969	1970	1971	1972
New					
11.3	Shore facilities	-	30.0	-	-
11.5	English Teaching	-	1.5	-	-
11.6	Employment Bureau	-	1	1	-
	Total	-	31.5	-	-

Chapter 12 - Medical

General

12.1 The first priority in the first year of the Plan period is to devise and implement . the first stage of a major programme for the control and reduction of the rate of population growth. Without this, any efforts to develop the territory will be doomed to failure. During 1968 and 1969 a small family planning programme has been developed by the Medical Department and has achieved limited success. The future programme will be on a much larger scale to educate the people, and to disseminate information on the need for the programme, the techniques available, and the benefits it will bring. The Mooring Report stated that "the task of stabilising the population .... must be attempted and must succeed if the territory is to avoid increasing poverty and overcrowding and in the long run the danger of under-nutrition and even starvation".

12.2 Medical services generally are as well developed as the Colony can afford, and limited development in the Plan period will be concentrated on preventative aspects through Health Education, the Maternity and Child Health Service, and the continuation of Filariasis, Tuberculosis and Yaws control programmes. The level of curative medical services can only be increased if expenditure is increased. This in turn requires increased income or that a higher proportion of existing income be devoted to such services. The urgent need to divert all possible resources into productive investment capable of generating new income precludes expansion of curative services until increased income has been achieved.

Population Control and Family Planning

12.3 Great efforts in the period 1970-1976, using overseas assistance and concentrating on the development of agriculture, marine training, fishing, local industry and training, discussed elsewhere in the Plan, will enable the territory to meet the reasonable needs of its people if population growth can be reduced. Every child born means additional demands for land, housing, food, education, medical facilities and employment, and unless the numbers born can be reduced, reasonable needs will not be able to be met. At the present rate of growth, the population will double in a little over twenty years and the whole Colony will be as badly off as sometimes occurs in the driest year in the driest island of the Group. This situation will not continue for a single year but will be permanent. People under 30 years of age in 1969 will live to see this unless the birth rate can be reduced and the population level stabilised. Immediate means must be found to reduce the number of children per family from the present 5-6 to 2-3. The major problem is to convince islanders of the seriousness of the situation.

12.4 Between the 1963 and 1968 Censuses, the population of the territory has grown at 2.3% annually. The resident population, however, has increased at a lower rate because of emigration. The birthrate is now 34 per 1,000 and the mortality rate 11 per 1,000. The infant mortality rate is still high but will decrease as improved health education and Maternity and Child Health facilities lead to better nutrition and child care. The birth rate is likely to increase sharply as the number of females entering the child-bearing age group increases. In 1968 there were some 10.500 women in this age group, but during the next decade some 7,250 will enter it and only 2,500 leave so that it will increase to 14,725 - an addition of almost 50% by 1978.

12.5 If the child-bearing pattern and average family size of 5-6 children continues as at present, the number of births is likely to rise from the present 1,800 per annum to 2,500 per annum in the 1970's. The population growth will increase to 3.1% annually, or 3.3% to 3.4% if the infant mortality rate drops as anticipated. The predicted rise in territory population unless the birthrate is reduced is shown in Table 12.5.

Table 12.5 - Population Increase 1968-1988 (Constant Growth Ratos)

	Present Growth Rate 2.3%	Future Growth Rate 3.3%
1968(Census)	53,500	53,500
1978	67,150	74,000
1988	84,300	102,400

12.6 Estimating the maximum population that any area can support is a hazardous undertaking. However, in the narrow ecological system of the Colony where natural resources, as presently known, have definable limits beyond which they cannot be further exploited, an estimate of 80,000 to 90,000 is unlikely to be far out. This limit may be expected to be reached by the mid-1980's.

12.7 Measures to control the rate of growth of population must be implemented long before this level is reached, otherwise it will continue to rise at 3.3% per annum beyond that date. The immediate objective will be to reduce the average number of children per family from the present 5-6 to 2-3. This target, as the Mooring Report pointed out, is in itself inadequate, but is a reasonable and attainable first stage.

12.8 The lower infant mortality rate is decreasing the need for large families to ensure adequate family labour or support in old age. The continued fragmentation of lands is bringing an increasing awareness of the problem of supplying food for large families on many Outer Islands, whilst in Urban Tarawa overcrowding, limited employment opportunities and the high cost of food must also make this point. Traditional behaviour patterns favouring large families and religious prohibitions make the problem of population control and family planning a highly emotive and sensitive issue, but a significant number of factors hold out prospects of success for a carefully devised programme.

12.9 A Senior Health Education Officer has been recruited. He will be assisted by a local Health Education Officer in devising an educational programme to explain the problem of population pressure to community leaders and subsequently to the entire population through broadcasts, publications, posters and films. Reasonable medical coverage already exists in the Colony and family planning will form an increasingly important part of the Health Education and Maternity and Child Health effort. Increased effort in medical training programmes will be directed to explaining the need for, not merely the techniques of, population control. Medical aspects of the programme will require the services of a woman doctor.

12.10 The educational and medical coverage problem is not large in terms of numbers. Implementation of the programme will, it is anticipated, be concentrated on the under 30's age-group. There are only 12,750 persons of both sexes in the 15-29 age group at present, and 3,750 are resident on Tarawa.

12.11 The initial target of halving the average family size by the middle of the decade would have the following effects:

Table 12.11 - Population Control Effects (Constant Growth Rates)

	Uncontrolled Growth 3.3%	Controlled Growth 1.6%
1968	53,500	53,500
1973	62,900	57,900
1978	74,000	62,700
1988	102,400	73,600

12.12 The costs of the programme cannot be estimated until the Senior Health Education Officer has assessed requirements. A token $60,000 is allocated in the Plan period. Most expenditure will be recurrent - for staff, training, transport, supplies, publications, films, broadcasting, etc.

Preventative and Curative Services

12.13 The continuation of existing levels of curative services and a concentration of preventative services are the basis for medical policy in the Plan period. Health Education, particularly in relation to nutrition and sanitation, is of particular concern in Urban Tarawa. Difficulties of medical supervision and supplies to Outer Islands will be reduced during the period through improvements in Inter-Island and Island transport. There is no provision for medical capital development in the Plan period excepting a small carryover of $7,000 for Outer Islands building. Estimates of requirements in 1973-1975 will depend upon an assessment of priorities nearer that date.

12.14 The incidence of water-borne disease through poor water supplies and contamination from poor sanitation, particularly in urban areas, is referred to in Chapter 7 and considerable expenditure on improvements is planned in 1970-1972. The expected World Health Organisation Specialist's Report will form a base for assessing further requirements.

Manpower

12.15 The Medical Department, excluding Family Planning Services, is adequately staffed, by less developed country standards, since in the past it has received considerable priority in the allocation of trainees to overseas courses and in the local training of nurses and dressers. With the increase of the retiring age to 50 and later to 55, the services of local Medical Officers will no longer be prematurely lost to the Colony.

12.16 With the growth in population and an average 3% increase per annum in the price of medical supplies, it is inevitable that the recurrent costs of medical services will increase each year if there is not to be a reduction in coverage. At present, with a few exceptions for hospital treatment, medical services are provided free. It is intended, however, that a scale of fees will be introduced - initially only on South Tarawa - so that a proportion of expenditure on medical services will be recovered. There will be specific exemptions from these fees for those suffering from public health risk diseases such as Tuberculosis, Leprosy, Typhoid, etc.

12.17 Table 12.17 shows capital expenditure on medical facilities in 1970-1972.

Table 12.17 - Expenditure

No.	Project	1969	1970	1971	1972
			$ '000		
Carryover					
12.13	Outer Is. Buildings	-	7.0	-	-
New					
12.12	Family Planning	-	20.0	20.0	20.0
	Total	-	27.0	20.0	20.0

CHAPTER 13 - Administration

General

13.1 In recent years, there has been a substantial increase in governmental activity, and whilst departmental professional establishments have been greatly strengthened, the overall structure and organisation of the Administration has, until recently, remained unchanged. There would, therefore, be advantage in an administrative review at this stage, and Technical Assistance will be applied for in order to undertake this with particular reference to the division of functions between departments and the Secretariat, job analysis, work study, and organisation and method.

Development Planning

13.2 The Regional Development Planning Unit, as its name implies, has regional responsibilities and cannot devote its whole attention to the Colony. There is a need, therefore, for the creation of a senior administrative post responsible for the co-ordination of all development planning activity. This post will be connected with the finance section of the Secretariat and will also, in the early stages, be closely involved in the operation of the development activities of the Development Authority.

Localisation, Training and Personnel Management

13.3 The shortage of skilled manpower has been referred to in other chapters, as has the need to implement a systematic programme of localisation. The Skinner Report "Localisation of the Civil Service" was published in April 1968 and accepted by Government in November 1968 as a basis for localisation policy. It recommended that "localisation should proceed with all possible urgency, the aim being to localise all non-professional posts within five years and all professional posts within ten years". It made specific recommendations for achieving these targets, and high priority will be given in the Plan period to achieve the initial target by 1973.

13.4 The Pincombe Review recommended the creation of a post of Senior Assistant Secretary (Establishments) in the Secretariat, and that localisation and training policy should be the specific responsibility of this post. This recommendation has been accepted, and it is hoped that a suitable officer will be appointed at an early date.

13.5 Government, or its agencies, is the principal employer in the Colony, and it is intended that in future it will plan the allocation of manpower and its training in accordance with development needs so as to ensure the most effective use of available resources. In order to conserve men with valuable skills, the retiring age for civil servants, previously 45, will be extended to 50 and possibly later to 55.

13.6 Study will be made of the possibility of creating a separate cadre for the executive and senior clerical grades in certain departments whose functions are specialised and likely to become more so. At present, there is considerable waste of experience and loss of continuity through cross-posting between departments, which has hitherto been found necessary in the interests of fair promotion prospects within a relatively small service.

13.7 The Skinner Report suggested that expatriate staff recruitment should be limited to professional and training officers, and all new posts in the Plan period are of this type. There is, in addition, considerable scope for the use of Volunteers in Outer Island Development schemes and to assist Island Councils.

Buildings

13.8 The Secretariat and the Government Departments are spread between three locations and there have been proposals to

centralise Government at Bairiki to ensure greater efficiency and co-ordination. The costs of a short-term programme of rebuilding would be high, and existing buildings with minor modifications are physically adequate on the whole. $20,000 is allocated for minor modifications in 1970-1971. Rationalisation, geographical and functional, in the use and expansion of existing facilities will be achieved in two ways.

13.9 Firstly, a survey of existing building use will be undertaken in relation to working space required so that maximum Departmental efficiency can be obtained in existing locations. Secondly, further construction of new buildings to house additional functions of Government at existing locations will be related to the possibility of transferring existing buildings to new functions, and creating replacement buildings at Bairiki to permit gradual centralisation of Departmental activity. The feasibility of centralisation will be limited by housing stock distribution. The transfer of Public Works Department activities to the Development Authority at Betio will be a starting point for this latter type of rationalisation.

Local Government

13.10 The recently instituted Island Councils on Outer Islands are in many cases not functioning effectively, and during the Plan period concentrated attention will be given to more intensive training of Council administrative staff. It is intended that salaries will be raised in order to attract higher calibre staff. Improved inter-island transport, particularly the internal air service, will mean that officers of the District Administration will be better able to guide and advise Councils. Priority will be given to maintaining the staff of the District Administration at full strength.

13.11 The estimated costs of Local Government training is $12,000 annually for an output of 12 Island Executive Officers and Clerks each year commencing in 1970. This project will be integrated with a wider group of vocational training courses. Project 10.38 and the capital costs of classrooms and equipment is shared with them.

13.12 With increased attention being paid to Outer Islands, it will be necessary to provide for the reconstruction of some rest-houses for touring officers. Provision of $6,000 is made for each year of the Plan in order to build, or re-build, rest-houses on six islands annually.

Police

13.13 The Mooring Report commented on the rapid expansion of the Colony Police Force in recent years and its introduction on Outer Islands which had previously been policed by the Island Councils. The Report recorded a 50% increase in recurrent expenditure on the Police Force in four years, and noted the high ratio of police to population. It raised the question as to whether the problems of law enforcement outside the Tarawa and Ocean Island areas justified the increasing expenditure and drew specific attention to the capital requirements for "office and living accommodation which is expensive by local standards".

13.14 It is not intended that there should be any expansion of the Police Force during the Plan period. There is, however, a considerable backlog of offices, houses, lock-ups and equipment which are necessary for the efficient functioning of the Force. Buildings will as far as possible be constructed in local materials and an allocation of $100,000 has been included for capital expenditure. Included in this is provision for three boats of a standard type which will be available for use by all departments needing them.

13.15 The problem of juvenile delinquency on Betio has reached a stage at which it is necessary to establish a small remand home. This will be supervised by an older Volunteer, with relevant experience, who has already been appointed. It is planned that those remanded to the Home will attend school in the normal way, but be under supervision during evenings and nights. Provision of $3,000 is included for the erection of a simple building.

Fire Fighting Facilities

13.16 The Government owns $2.6 million-worth of houses built for the most part of highly inflammable materials. In addition there are extensive Government buildings and Development Authority facilities at all three Tarawa centres. Urban fire-fighting facilities, two fire-tenders, are an essential requirement for Betio and Bikenibeu, where there is also a substantial danger to life. The equipment will be manned by the Police Force and if necessary by local volunteers.

13.17 The estimated capital cost of the equipment, including garaging, in the Plan period is $12,000 in 1970 and 1971. In 1970 Bikenibeu will be covered by an existing vehicle.

Expenditure on Administration 1970-1972

13.18 Table 13.18 summarises capital expenditure on Administration during the Plan period.

Table 13.18 - Expenditure

No.	Project	1969	1970	1971	1972
13.1	Administrative Review	-	10.0	-	-
13.8	Administrative Buildings	-	15.0	5.0	-
13.10	Local Govt.Training Facilities	-	T	T	-
13.12	Rest Houses	-	6.0	6.0	6.0
13.14	(1) Police Stations & Housing	-	18.0	38.0	38.0
	(2) Police Boats	-	2.0	2.0	2.0
13.15	Remand Home	-	-	3.0	-
13.17	Fire Fighting Equipment	-	6.0	6.0	-
	Total	-	57.0	60.0	46.0

/CHAPTER 14 .....

CHAPTER 14 - Development Authority

General

14.1 The Mooring Report recommended substantial changes in the organisation and functions of the Wholesale Society - a Government-owned commercial trading concern with additional activities covering transport, engineering, construction and hotel management. The principal recommendation was that it should be re-established as a Government-owned Development Corporation with subsidiary operating companies in five functional fields - the subsidiaries incorporating certain functions now undertaken by Government. An additional and critical recommendation was that it should operate on commercial principles with, in particular, commercial pricing policies.

14.2 The general principles were accepted by Government in December, 1968, with reservations on the questions of structural detail, the proposals for subsidiary companies, participation by the Co-operative movement and other aspects: these matters were to be the subject of further proposals. The organisation and structure proposed, which differs substantially in some respects from the Mooring recommendations, is outlined below.

14.3 It is proposed that the Wholesale Society should be reconstituted as a Development Authority, charged with undertaking the activities of the present Wholesale Society and such other functions of an economic or commercial nature as it may be expedient to undertake.

14.4 The Development Authority will be established under Colony legislation. As a legal entity the Authority will comprise a Board consisting of a Chairman and about eight members. It is proposed that there should be a voting majority of Government representatives and that other members should be representative of interested bodies or the general public.

14.5 It is proposed that the Development Authority Board should operate through a Management Board. The Development Authority will be empowered to appoint the General Manager and Divisional Managers, to require the Management Board to investigate new operations and activities required in the public interest. The Authority will advise and recommend to Government that such operations be commenced, and levels of subsidy where necessary. The profits of the Development Authority Divisions will be received by the Development Authority, which will be responsible for recommending to Government projects requiring capital investment prepared by the General Manager; it will be responsible for approving annual budgets and plans of the Management Board of its Divisions, and the appointment of Auditors.

14.6 The Management Board will operate the assets of the Development Authority, and be responsible to it. The Board of Management will include the General Manager, the Chief Accountant, and other managerial staff. There will also be a Government representative. It is proposed that Divisions should operate under the day to day control of individual Managers, but would not themselves have Boards, being responsible to the Board of Management. The operating Divisions would not be established as Companies, because the requirements and regulations of the Companies legislation would not be appropriate to their needs.

14.7 Private enterprise participation in Authority activities will be encouraged by hiving off specific activities from the Divisions.

14.8 It is proposed that there should be separate Divisions of the Authority, covering engineering and construction, transport, port operations and the development of new projects. It is considered that initially the Development Division would also cover the hotel and travel section and plantation management: as activity

develops, however, it may be expedient to subdivide or modify the divisional responsibilities.

Trading

14.9 The trading organisation, successor to the Wholesale Society Trading Division, requires a different organisational structure in view of the proposed participation by the Co-operative movement. The Mooring Report recommended that the trading organisation should be wholly owned by the proposed Development Corporation, and that there should be no financial participation by the Co-operative movement. The arguments for and against this proposal have been carefully examined. It has been concluded that, not only because of the assurances given in the past that the Co-operative movement would eventually have control of the wholesaling organisation, but also because it is a logical and desirable development of the existing trading structure, the Co-operative movement should progressively take over control of wholesale trading.

14.10 It is proposed that initially the Co-operative Federation should be offered a minority shareholding in the trading organisation, with the Development Authority retaining a majority shareholding and voting control. The arrangements, which have yet to be worked out in detail, will make it possible for the Co-operative Federation to increase its holding to take over control of the trading organisation within a few years. In the transitional period the Co-operative movement will gain experience of the wholesaling operation: though it will probably be necessary for it to engage professional management from overseas for some time to come.

14.11 In view of the intention that the Co-operative movement should take over the wholesale trading function it is proposed that the present Trading Division of the Wholesale Society should be taken over by a newly-formed Wholesale Co-operative Society. During the transitional period this Society would have two members: the Development Authority and the Co-operative Federation. The Management Board of the Co-operative Society will comprise Development Authority and Co-operative Federation officials in the same proportion as their shareholding.

14.12 With the removal from its orbit of the merchandising function, the Development Authority will be better able to concentrate on its main tasks and the real reason for its establishment: the development of new projects, and the rationalisation of engineering, construction and transport services.

14.13 At present the Wholesale Society operates two retail stores on South Tarawa. It is proposed that these should be sold to local consumer Co-operative Societies as soon as possible.

Shipping Division

14.14 Following acceptance of the proposal in December, 1968 that a high priority should be given to the merger of the Wholesale Society and Colony fleets under a single organisation, arrangements were made for the operational management of the Colony's inter-island vessels to be taken over by the Wholesale Society on 1st November, 1969. Shore staff have been seconded to the Wholesale Society on a provisional basis: it is proposed that, with the establishment of the Authority, formal offers of transfer to the Authority will be made to Government staff.

14.15 The activities of the Shipping Division will be restricted to operation of the combined fleet of inter-island vessels during 1970.

Ports Division

14.16 At present the Wholesale Society is responsible for lighterage and stevedoring at Tarawa; the Marine Department is responsible for the harbour and its control, and the Public Works Department for maintenance of the structure of the port and sea defences. The cost of Wholesale Society operations is passed on to the users of its services, but the costs incurred by Government are not directly charged to users.

14.17 The Marine Department is responsible for navigational aids and operates the lagoon ferry services at a substantial loss.

14.18 Reorganisation is required, to rationalise operations and to ensure that the costs of operating port services can be identified and passed on to users by appropriate scales of charges.

14.19 It is proposed that there should be a Ports Division of the Development Authority which will be responsible for the operation of the port, including lighterage, stevedoring and port warehousing. The Marine Department, through the Harbourmaster, will continue to control the actual harbour, and navigational aids. It will lease space on the wharf to the Ports Division. It will be responsible for the maintenance of the wharf face and surface, sea defences, light, etc. (for which it will control funds) and will impose wharfage dues at the level necessary to cover the costs of the port. These will be additional to the dues levied by the Ports Division.

14.20 It would be logical for the Ports Division, which will operate lighters and small craft, to take over the small craft and ferries operated by the Marine Department. Consideration will be given to this later in the Plan period when the first phase of reorganisation has taken place.

Engineering Division

14.21 Parallel organisations run by the Public World Department and the Field Division of the Wholesale Society cover most branches of construction and engineering. It is proposed that, during the Plan period, the sectors in which there is duplication will be rationalised by amalgamating certain Public Works and Field Division functions into a new Engineering Division of the Development Authority. Detailed arrangements will be worked out by mid-1970.

Development Division

14.22 The primary purpose of this Division will be to investigate and to instigate investigation into small- and large-scale projects which show promise of becoming viable economic enterprises. Private enterprise will frequently be invited to participate in experiments and investigations, and the Administrations's Development Secretary would work very closely with the Division. Initially, it may be convenient to include the hotel and travel agencies, and the Plantation Section within the Development Division, though it is possible that these will, before long, become separate divisions of the Authority.

14.23 The Development Division will be under the direct control of the General Manager: it is envisaged that other Divisions of the Authority will be utilised to a great extent in the investigation and formulation of new projects. In view of the importance of this aspect of the Authority's activities, and the calls on the General Manager's time in other fields of reorganisation, consideration is being given to the appointment of an officer to assist in the co-ordination of the Authority's developmental activities.

Management: Accounting and Manpower

14.24 The establishment of effective management and accounting systems for the Management Board and its Divisions is critical to the entire reorganisation to enable adequate control, costs of operations, and separation of functions to be achieved, and for forward planning. For the time being, accounting will operate as a Management Board Service to each Division. It is envisaged that most of the internal and external accounting involved in this structure will be handled by a centralised accounting office working under the General Manager. A central billing system will be operated with all cross-costing done through this office, and monthly financial reports will be made to individual managers and division heads. The managers will be responsible for their costings, raising their own charges, and keeping stock records. The General Manager and the Chief Accountant will be responsible for the co-ordination and development of costing systems and staff training, but initially additional and short-term staff is required to enable suitable management and accounting systems to be designed and implemented quickly. Substantial investment in designing and implementing efficient systems will amply repay expenditure, and Government will allocate $30,000 for the retention of resident consultants in 1970-1971.

Development Authority Financing

14.25 The Development Authority's capital investment programme will be submitted to Government for evaluation in line with development priorities. Capital funds will be made available in accordance with these priorities on commercial terms, neither the Development Authority nor its division will have any automatic right to plough back profits into its activities; indeed, profits will accrue to Government as owner of the Authority. The preparation of Authority and Divisional budgets is a most urgent matter since substantial investment in replacement and new equipment and facilities is likely to be required in the Plan period. Table 14.25 summarises expenditure by the Authority. Division expenditure is given in the relevant Chapters.

Table 14.25 - Expenditure

		$ '000			
No.	Project	1969	1970	1971	1972
14.24	Management Consultants	-	20.0	10.0	-
	Total	-	20.0	10.0	-

/APPENDIX I ....

APPENDIX I

SUMMARY OF PROPOSALS *

CHAPTER 1. Development Strategy and Development Financing

1.1 During the decade there will be a rapid growth of population, the loss of a major source of income and increased participation in policy by the territory's own citizens.

1.2 The maintenance of present living standards depends upon the diversion of resources into productive investment, tight control upon growth of personal consumption and social services and control of population growth.

1.3 Government activity will be switched from past emphasis on the development of social services and infrastructure.

1.4 Investment in agriculture will take high priority.

1.5 Shortage of skilled manpower and need for investigational work are the prime constraints on increasing productive investment.

1.6 Capital investment will be mainly in the hand of Government or its agencies, with the responsibility to undertake 'risk investment'.

1.7 The population of the territory is growing at a rate of 2.3% per annum.

1.10 Population is expected to increase by 14,000 by 1977, and the combined effects of loss of Phosphate income and population increase would virtually halve per capita cash income.

1.11 The maintenance of existing (1968) living standards in the territory requires that new sources of income be found by 1977 and subsequently increased in line with population growth. Such sources of income do not exist, and the maintenance of present living standards can only be achieved from 1977 to the middle 1980's by the provision of increased external assistance.

1.12 The National Income Target for 1986 is $10.720 million. The Development Plan programme will generate new income of $5.726 million for 1986. The National Income gap will then be $0.381 million if a 6% p.a. rate of growth of income from non-phosphate sources is maintained.

1.14 Existing salary levels are out of line with national income and productivity and vigorous control is essential in the future.

1.15 External budgetary support will be required between 1977 and 1985 amounting to $1,825,000 in 1977, rising to $2,000,000 in 1979-82, and falling to $381,000 by 1986.

Development Priorities

1.21 The highest priority attaches to reducing the rate of growth of the population and stabilising it at a level which the known resources of the Colony can sustain.

1.22 The improvement of coconut production will make a major contribution to income growth.

1.23 There is provision in the Plan to investigate the feasibility of a variety of import substitution investment possibilities.

* Note: This Summary is intended as a guide to the contents and proposals in the Plan, but does not form part of the Plan itself.

1.24 The expansion of the Merchant Marine Training School will create a major new source of income from remittances.

1.26 It is of considerable importance that services provided by the Development Authority be rationally costed and priced at an early stage.

1.27 Additional charges will have to be considered for electricity and water, as it will be necessary that consumers contribute where possible to the cost of the services they enjoy.

1.28 Income from Ocean Island phosphate production must be maximised during its remaining life.

1.30 National Income will rise considerably in the Plan period - in 1970 by a minimum of $300,000 over the 1969 level.

1.31 Specific tax measures are proposed to remove increased per capita purchasing power from the economy.

1.32 The Plan endorses the Mooring Report's recommendation that the local saving should be maximised in the period 1970-76.

1.38 Planned capital expenditure for the period 1970-1972 will total $2,393,500.

1.45 The Plan assumes the continuation of capital aid of $750,000 annually.

CHAPTER 2 - Agriculture

2.11 The expansion of Agricultural Department staff is critical to the development programme. Those required are:

(a) Agricultural Assistants for training
(b) Local diplomates
(c) Expatriate Agricultural Officers

2.15 Cash incentives to encourage new planting and replanting of coconuts are required. A wider range of consumer goods should be provided on Outer Islands.

2.16 It is proposed that a Technical Assistance Consultant should be recruited to prepare a report and recommendations on all aspects of Copra Marketing.

2.19 It is proposed that a Technical Assistance Expert should be recruited to review the land tenure system and to advise on related problems.

2.22 Additional Co-operative staff will be required to administer Agricultural Co-operatives:

(a) Senior staff recruited overseas
(b) Junior staff recruited locally

2.27 A Subsidy Scheme for Grove Improvement and Maintenance is proposed.

2.32 A Subsidy Scheme for New Planting is proposed.

2.37 A Copra collection scheme to encourage fuller use of existing nuts is proposed.

2.39 A scheme to subsidise the production of bicycle trailers for Copra collection is proposed.

2.40 Three experimental boats to two 2-3 tons of Copra are proposed for lagoon work.

2.41 Three further boats for use by Agricultural Officers on Outer Islands will be purchased.

2.42 The tool subsidy scheme operated by the Copra Board will continue.

2.44 A rat control programme against Ship Rat will be undertaken.

2.46 Investigational work on Christmas Island will proceed on large-scale replanting there.

2.49 Plans for the re-development of Fanning and Washington Islands will be formulated and, if possible implemented.

2.51 A pilot land reclamation project will be carried out in the Temaiku gulf on Tarawa.

2.52 A programme of Coconut research will be instituted.

2.54 The re-drafting of legislation for the control of animal and plant importation will be undertaken.

2.55 A Forestry programme is proposed, aimed at replacing imported timber by locally grown casuarina. A forestry specialist or Volunteer will be sought to carry out the necessary preliminary investigations.

2.59 A proposal to purchase a 40-ft. fishing vessel in order to undertake research and training in Tuna Fishing will be considered by the Colony Fisheries Officer.

2.60 A small-scale fisheries project to train islanders in the use of a small fleet of in-shore fishing boats to supply the local market will also be considered by the Fisheries Officer.

CHAPTER 4 - Manufacturing and Service Industry

4.1 The Colony should not continue to use imported materials where local substitutes are available.

4.2 Investigations are proposed into the feasibility of the local production of such items as processed fish, timber, lime, rope, sacks, tools, boats, trailers and bicycles.

4.3 Additional projects may be investigated by the Development Division of the Development Authority.

4.6 Feasibility studies are proposed into:

(a) The production of coconut oil for export
(b) The local production of desiccated coconut

4.7 Government investment on a large scale in Tourism cannot be justified, but funds will be made available for promotional work.

4.8 Investigations are proposed into the development of manufacturing and export of pre-fabricated items which would involve expansion of the Engineering Division of the Development Authority.

4.9 It is proposed that the maintenance facilities of the Engineering Division should be built up through the amalgamation of Public Works Department and Wholesale Society engineering activities.

4.10 The expansion of marine maintenance facilities will be investigated. Expansion would allow most if not all work on Colony shipping to be done at Tarawa.

4.12 It is proposed that an Engineer, probably a Volunteer, should be recruited to conduct the investigations required in this chapter.

CHAPTER 5 - Trading and Marketing

5.2 It is proposed to offer a minority interest in the Trading Organisation to the Co-operative Movement, as an interim measure preparatory to the organisation becoming a fully owned Co-operative Wholesale Society.

5.4 The common price/pooled freight system will cease during 1970 and sub-economic freights to Outer Islands will be directly subsidised.

5.5 It is proposed to improve wholesale service by a more aggressive buying policy.

5.6 The Trading Organisation will be separated from the Port and will require the construction of additional warehousing.

5.12 It is intended that the two Wholesale Society retail stores on South Tarawa should be sold to Co-operatives. Financial assistance will be required from the Loans Board.

5.14 It is considered essential that the quality of management of Co-operatives should be improved by additional training. There are a number of possibilities for diversification of Co-operative activities in building, mechanical maintenance, cinema operation, and the development of small scale manufactures listed at paragraph 4.4.

5.16 Additional investment by Co-operatives in building and increased stocks of consumer goods will be necessary.

CHAPTER 6 - Transport

6.3 The first priority is for a comprehensive Transport Survey covering land, sea and air transport.

6.12 It is possible that the results of the Transport Survey may indicate the necessity for some changes in the composition of the Colony Fleet.

6.14 There is a need for investment in Betio Port Facilities for warehousing, drainage and lighting, water storage and equipment.

6.15 There is a possibility that an overseas shipping line may establish a bunkering port at Butaritari. This will have to be given careful consideration, since substantial expenditure on navigational aids could be involved.

6.17 It is proposed that the very high external air fares to the Colony should be investigated in 1970 with a view to seeking reduced rates and concession fares.

6.18 It is in the interests of the Colony that an air route to the North should be developed both from a tourist viewpoint and for the benefits competition would bring.

6.21 It is intended that the full costs and benefits of the internal air service should be investigated in relation to alternative inter-island transport methods.

6.22 The second stage in the provision of airfields for the internal air service will await the findings of the Transport Survey. Three more airfields may be built towards the end of the Plan period.

6.23 $17,500 is allocated for work on the runway at Bonriki International Airfield.

6.24 It is likely that the Colony will be faced with a demand for the further up-grading of the two international airfields - to provide paving, lighting, additional navigational aids, etc. If these demands are made, it is considered that funds should be provided to meet them from some new source on a regional basis.

6.25 It is proposed that the payment of aircraft landing fees should be introduced at an early date.

6.28 It is proposed that an increased road tax will be levied on all motorised vehicles in the Colony. It is essential to ensure that the costs of road use and development fall upon users.

6.29 The use of bicycles should be encouraged as the road costs they incur are negligible.

6.30 The design and construction of an experimental boat capable of moving reasonable quantities of freight in lagoon conditions under sail will be subsidised.

6.31 Funds are to be made available to finance the labour costs in jetty construction on Outer Islands.

6.32 It is intended that, as far as possible, vehicle types and makes should be standardised so that adequate stocks of spares can be held in the Colony. A short training scheme for island mechanics to be attached to Co-operatives is proposed.

6.36 The construction of the Betio to Bairiki causeway is dependent upon funds or equipment being made available by the Foundation for the Peoples of the South Pacific.

6.37 It is proposed in the meantime to go ahead with the construction of a vehicular ferry and terminal at Betio for the transport of vehicles, freight and passengers between Betio and Bairiki.

6.41 Proposals for the rationalisation and economy in use of the Government vehicle fleet are being examined and will be implemented as soon as possible. A transport pool may be set up.

6.42 When it appears that economies can be made by reducing the number of Government vehicles, personal loans for vehicle purchase will be encouraged. Commuted mileage allowances are under consideration.

6.44 The Marine Department will determine a suitable standard type of boat for lagoon transport use by Government Departments and Co-operatives.

CHAPTER 7 - Public Utilities

Water

7.5 Reserve storage at Betio is inadequate and the building of an additional reservoir at a cost of $50,000 is necessary.

7.6 Further examination will be made of the possibility of replacing distributed well water by increased consumer-located rainwater catchments.

7.7 A further well is required at Betio at a cost of $20,000, together with a Chlorination Plant.

7.10 It is proposed that the use of wells at Bairiki and Bikenibeu will be discontinued during the Plan period and water will be piped into the two centres from water reserve areas. It may later be necessary to pipe water across to Betio

7.11 $5,000 is allocated for further investigation into the capacity of water reserve areas.

7.13 $10,000 is provided for the construction of aqua-privies at existing houses.

Electricity

7.19 The present electricity tariff results in the price of electricity being subsidised by about 30%. Revenue in 1969 met only the recurrent costs of fuel and labour.

7.20 The future aim will be to put production onto a commercial basis with revenue meeting expenditure. It is estimated that a tariff increase of 50% will be needed to achieve this.

7.21 Full electricity costs will be included in all Government projects.

Posts and Telecommunications

7.24 Application for Technical Assistance has been made to review the accounting and postal services of the Department. New posts will also be created to strengthen the accounting section and to collect statistics.

7.25 It is considered that philatelic sales of Colony stamps could be expanded to a target of $150,000 per annum within 3-4 years. The staff of the Philatelic Bureau will need strengthening.

7.27 $5,500 is allocated for minor improvements to the telephone network. Connections will not be offered outside the three main centres. Call boxes will be built in Betio, Bairiki and Bikenibeu.

7.32 The possibility of obtaining spare parts for existing Telecommunications equipment from Singapore will be investigate

7.33 Capital investment in telecommunications equipment is required in internal, international, maritime and aeronautical facilities in the Plan period.

7.34 In order to ensure standardisation, the Posts and Telecommunications Department will be consulted prior to the ordering of electronic equipment overseas.

7.35 There is provision in the Plan for the construction of a new telecommunications centre on Betio, a workshop at Funafuti, and new radio stations on Outer Islands.

CHAPTER 8 - Housing and Construction

8.2 A rundown in the construction labour force is anticipated Government will reconsider its policy with regard to staff housing and certain sections of the Employment Ordinance may need to be repealed

8.3 The two major requirements during the Plan perios are the development and use of local building materials, and the assessment of the full costs of construction and civil engineering works.

8.5 Expenditure will be required for staff to police measures to control and subsidise the repatriation of unemployed population on Betio as soon as such measures are introduced under Public Health and Housing legislation.

8.7 It is considered that existing housing stocks should be sufficient until 1972, but $10,000 is provided for the construction of verandahs, etc.

8.8 The present statutory requirement to house unestablished workers will require repeal.

8.13 At present the rent received for Government housing covers only slightly more than half the annual maintenance costs. Consideration will be given to introducing a modified system of rental based on 5% of the real economic rental. This would encourage a long-term move by employees towards lower-cost housing.

8.16 It is proposed that detailed experimentation into the use of local building materials, particularly lime and timber, will be undertaken during the Plan period.

8.17 It is proposed that investigations will be undertaken to establish whether it is more or less economic to construct frame warehousing in the Colony rather than to import pre-fabricated buildings from overseas.

8.18 It is intended to keep the mechanisation of tasks to a minimum since the costs to the economy of using local labour are considerably less than those of using imported equipment.

8.19 The construction sector in the Colony will be undergoing extensive re-organisation during the Plan period as Public Works Department and Wholesale Society activities are re-grouped as a Development Authority Division.

CHAPTER 9 - Information and Broadcasting

9.4 It is proposed that simple printing facilities and other items of Information Office equipment should be provided at a cost of $30,000.

9.6 The Broadcasting Service has an important role to play in the dissemination of development-directed information, and a great deal of skill and inter-departmental co-operation will be needed to put across information on such vital matters as Family Planning and Agricultural Development.

9.9 Broadcasts should also help to explain the working of Local Councils.

9.10 Educational broadcasts should help to improve the knowledge of spoken English. Job vacancies will also be broadcast.

9.12 Printing facilities will be geared mainly to producing textbooks, pamphlets and posters in association with other departments.

CHAPTER 10 - Education and Manpower

10.1 Education Policy will aim at meeting the urgent need for a small, highly trained labour force, professional, technical and skilled, and at providing basic primary education for all.

Primary Education

10.15 There are two demands for primary education:

Firstly - to educate the relatively small numbers of children who will be required to proceed to secondary and tertiary education to meet the need for trained manpower; and secondly - to provide an education which will be complete in itself and provide a foundation upon which the youth are able to adjust to change and to participate intelligently in social and economic development.

10.18 $60,000 is allocated for new or improved primary classrooms during the Plan period.

10.20 The formula to be adopted as a primary education policy is still under consideration. Any attempt to provide universal primary education threatens to commit the Colony to a volume of expenditure it cannot afford.

Teacher Training

10.23 Until a new Primary Education Policy has been adopted, no major changes in Teacher Training can be considered. It is proposed, however, that there should be added emphasis on in-service training.

10.24 It is proposed to create an extra Lecturer post at the Teacher Training College to conduct in-service training on Outer Islands.

10.25 Technical Assistance will be sought for a visiting specialist to conduct a special course on Group Teaching and School Organisation in one-teacher and two-teacher scho

10.26 It is intended to appoint for two years a Curriculum Development Officer who will be responsible for the production of locally orientated teaching material.

10.27 $10,000 is allocated for 1970 and 1971 for minor impr ments to buildings and facilities at the Teachers' Training College.

Secondary Education

10.28 Despite substantial expenditure in recent years, the quantity and quality of output from the Secondary School is very low.

10.37 It is intended to expand the Government Secondary School to a 3-stream, 6-year course with an enrolment of

10.39 The expansion of the School will involve capital expenditure of $200,000 spread over four years, and substantially increased recurrent costs. The net cost per pupil, however, will be reduced by 1973 from the present $295 per annum to $240.

General

10.42 It is proposed to introduce in 1970 a system of institutional leave for teachers so that recruitment and holidays match the school year.

10.43 The need for curriculum renewal towards regional requirements will be met by the University of the South Pacific's United Nations Development Programme project for curriculum development and secondary teacher training.

10.48 A development information officer and informal education officer post is to be created to be responsible for the propaganda and information service backing up the Development Plan.

10.50 Token provision is included for the development of various schemes of Vocational Training and to ensure co-ordination to eliminate departmental overlapping.

10.53 Local training will continue to be centered on Betio and Bairiki. The Clerical Training School will be moved to Betio and a Vocational English Teaching Unit will also be established there. Responsibility for co-ordination of resources and manpower will rest with the Commissioner of Labour.

10.56 In 1970 all training scheme costs will be grouped together in Government Estimates so as to provide a comprehensive picture of investment in training.

10.57 For training overseas, the Scholarships Board will award scholarships in keeping with manpower priorities established by the Civil Service Advisory Board.

10.58 In order to avoid competition between different organisations in the territory, all recruitment will be formally channelled through the Commissioner of Labour.

10.59 $30,000 is provided for the expansion of library services and the marketing of books and paper on a commercial, possibly a subsidised, basis.

10.60 Staff increases are proposed for the educational administrative staff.

10.61 Staff increases are proposed for the Schools Inspectorate.

CHAPTER 11 - Marine Training School

11.2 It is hoped to be able to cut recurrent costs of training by increasing output to 300 trainees annually, through staff reorganisation and more effective use of the ship. It is proposed to charge each trainee a fee, and a significant financial contract between the trainee and the Colony will be encouraged.

11.3 A moderate staff increase at the training school will be necessary. The course will be shortened, with all but six weeks ashore, and the ship used intensively as a cruising sea training vessel.

11.5 With the increased intake into the school, added emphasis will be needed on English instruction. $1,500 is provided for equipment.

11.6 Technical Assistance has been sought to advise on the establishment of an Employment Bureau for seamen.

11.7 Trainees will continue to be encouraged to remit half their basic salaries back to the Colony.

11.8 Long term contracts will, whenever possible, be negotiate with overseas shipping companies with a guaranteed basic wage not below $900 per annum. Companies offering wages below this level will only be supplied with crews if more remunerative employment cannot be found for them.

11.11 The possibility of an entirely shore-based operation will be kept under review, but there are clear advantages in retaining a ship for the time being.

CHAPTER 12 - Medical

12.1 The first priority is to devise and implement the first stage of a major programme for the control and reduction of the rate of population growth.

12.7 The immediate objective will be to reduce the average number of children per family from the present 5-6 to 2-3.

12.9 Increased effort in medical training programmes will be directed to explaining the need for, and the techniques of, population control.

12.13 There is no provision for capital expenditure on medical development during the Plan period apart from a small carryover commitment.

12.16 It is intended, initially on South Tarawa only, to introduce a scale of fees so that a proportion of expenditure on medical services will be recovered.

CHAPTER 13 - Administration

13.1 Technical Assistance will be applied for to carry out an administrative review with particular reference to the division of functions between Departments and the Secretariat, job analysis, work study, and organisation and method.

13.2 It is proposed to create a senior administrative post responsible for the co-ordination of all development planning activity.

13.3 High priority will be given in the Plan period to achieving the targets for the Localisation of the Civil Service set by the Skinner Report.

13.4 It is hoped that the appointment of a Senior Assistant Secretary Establishments can be made at an early date.

13.5 The retiring age for civil servants will be extended to 50 and possibly later to 55.

13.6 Study will be made of the possibility of creating a separate cadre for the executive and senior clerical grades in certain departments whose functions are specialised.

13.8 $20,000 is allocated for minor modifications to administrative buildings in 1970-1971.

13.9 A survey of existing building use will be undertaken to establish the feasibility of gradually centralising departmental activity on Bairiki.

13.10 It is intended to raise salaries in the Local Government Service in order to attract higher calibre staff. Priority will be given to maintaining the staff of the District Administration at full strength.

13.11 $12,000 is allocated for Local Government Training.

13.12 $18,000 is allocated to build or rebuild rest houses on Outer Islands.

13.14 It is not intended that there should be any expansion of the Police Force in the Plan period. $100,000 is, however, provided for the construction of Police buildings and boats for the use of Departments on Outer Islands.

13.15 $3,000 is provided for the construction of a small Remand Home to combat juvenile delinquency on Betio.

13.16 $12,000 is allocated for the purchase of two fire tenders for South Tarawa.

CHAPTER 14 - Development Authority

14.3 It is proposed that the Wholesale Society should be reconstituted as a Development Authority.

14.8 It is proposed that there should be separate divisions of the Authority covering engineering and construction, transport, port operations and the development of new projects.

14.7 Private enterprise participation in Authority activities will be encouraged by hiving off specific activities from the divisions.

14.11 It is proposed that the present Trading Division of the Wholesale Society should be taken over by a newly formed Wholesale Co-operative Society. In the initial transitional period, the Development Authority would be a member of the Co-operative and retain control through a majority shareholding.

14.13 It is proposed that the two retail stores run by the Wholesale Society on South Tarawa should be sold to local Co-operative Societies.

14.19 It is proposed that the Ports Division of theDevelopment Authority should be responsible for the operation of the port, lighterage, stevedoring and port warehousing.

14.20 Consideration will be given later in the Plan period to the Port Division taking over the operation of the ferry service and small craft at present run by the Marine Department.

14.21 It is intended to work out detailed arrangements by mid-1970 for the rationalisation of engineering and construction in the Colony by the amalgamation of certain Public Works Department and Wholesale Society functions, to form the Development Authority's Engineering Division.

14.23 Consideration is being given to the appointment of an officer to assist in the co-ordination of the Authority's developmental activities.

14.24 $30,000 is allocated for the retention of Resident Consultants in 1970-1971 to advise on the design and implementation of efficient management and accounting system for the Authority.

APPENDIX II

EMPLOYMENT 1968-1983

1. Table 1 outlines the growth in the number of males entering the labour force. An extremely high proportion, by less developed country standards, of adult males (some 45% in the 15-49 age group) were in wage employment in 1968. Almost a quarter of them were working overseas in Nauru, the New Hebrides, the Marshalls, or were at sea. Column (5) of Table 1 estimates job requirements through to 1983 if the existing proportion was to be maintained.

Table 1 - Population and Employment
(Males 15-49 years)

Nos.

	All Races		Indigenous Males			All Races
Year	Total Adult Males	Employed within Colony	Colony	Overseas	Total	Colony & Overseas Males and Females
	(1)	(2)	(3)	(4)	(5)	(6)
1968	10,938	3,918	3,690	1,153	4,843	5,894
1978	15,820				7,100	
1983	18,282				8,200	

2. The estimated wage employment position in 1978 and 1983 arising from the implementation of the Development Plan is given in Table 2. It includes seamen trained by the Marine Training School, overseas employment in mining, and other semi-skilled occupations, and job opportunities arising through localisation. It assumes no increase in employment in Government, in industry, or service sectors of the economy, neither does it include growth of employment in the Agricultural sector. The last named is considered in paragraph 3 below. Increased copra output, and possibly the growth of tourism late in the decade, should ensure a few hundred additional jobs in Government, industry and service sectors.

Table 2 - Job Requirements and Estimated Employment 1978-1983
(Males 15-49 years)

		1978		1983
(1) Required Employment		7,100		8,200
(2) Deduct:				
Existing Employment	4,843			
Less Ocean Island	500	4,343		4,343
(3) New Jobs Required		2,757		3,857
(4) New Jobs Provided:				
Seamen	2,000		2,500	
Other Overseas	500		750	
Localisation	50	2,550	150	3,400
(5) Balance Job Requirements (3) - (4)		207		457

3. In addition to wage employment there will be a substantial increase in cash income earning opportunities in the Agricultural sector. The maintenance of coconut groves and new plantings following the completion of development schemes outlined in Chapter 2 will absorb over 1,500 males into the equivalent of full time employment. The expansion of copra output, from some 7,000 tons annually to 28,000 tons, will

create direct employment in copra production for 700-800 adult males by the middle 1980's (at current plantation manning rates). The bagging, handling, and shipment of additional copra output will create further employment opportunities. An estimated 3,000 additional man/years of employment will be created through the implementation of copra development schemes.

4. With 45% of adult males in wage employment in 1983, 10,000 males will be in the traditional subsistence and cash agriculture sector. It is from this group that the labour required by the copra development schemes will be found.

5. There appears to be no shortage of productive male employment opportunities in the foreseeable future. There are, however, serious difficulties in expanding female wage employment opportunities within the Colony, and any expansion will have to be sought overseas.

6. If employment opportunities are to be maximised, wage costs must be stabilised. Vigorous measures are required of Government to ensure that the increased working population can be absorbed into productive employment at existing standards of living. If wage costs rise relative to selling prices of Colony products, the main result will be a reduction in employment opportunities.

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